



Jeb Bush  
Governor

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

David B. Struhs  
Secretary

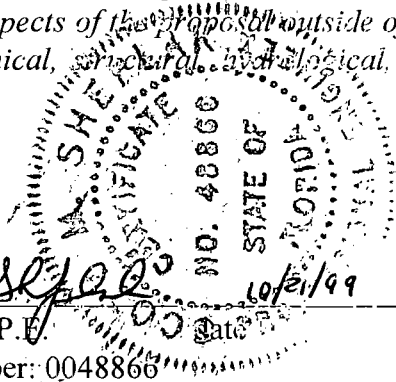
## P.E. Certification Statement

**Permittee:**  
Wheelabrator North Broward, Inc.  
North Broward Waste-to-Energy Facility

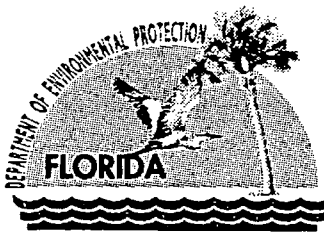
**DRAFT Permit No.:** 0112120-001-AV  
**Facility ID No.:** 0112120

**Project type:** Initial Title V Air Operation Permit

*I HEREBY CERTIFY that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-294 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, architectural, and geological features).*

  
*Scott M. Sheplak*  
Scott M. Sheplak, P.E.  
Registration Number: 0048866

Permitting Authority:  
Department of Environmental Protection  
Bureau of Air Regulation  
111 South Magnolia Drive, Suite 4  
Tallahassee, Florida 32301  
Telephone: 850/921-9532  
Fax: 850/922-6979



Jeb Bush  
Governor

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

David B. Struhs  
Secretary

October 21, 1999

Thomas D. Kirk  
Plant Manager  
Wheelabrator North Broward, Inc.  
2600 N.W. 48<sup>th</sup> Street  
Pompano Beach, Florida 33073

Re: DRAFT Title V Permit No.: 0112120-001-AV  
North Broward Waste-to-Energy Facility

Dear Mr. Kirk:

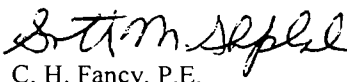
One copy of the DRAFT Title V Air Operation Permit for the North Broward Waste-to-Energy Facility located at 2600 N.W. 48<sup>th</sup> Street, Pompano Beach, Broward County, is enclosed. The permitting authority's "INTENT TO ISSUE TITLE V AIR OPERATION PERMIT" and the "PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT" are also included.

An electronic version of the DRAFT Title V Air Operation Permit has been posted on the Division of Air Resources Management's world wide web site for the United States Environmental Protection Agency (USEPA) Region 4 office's review. The web site address is <http://www.dep.state.fl.us/air>.

The "PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT" must be published as soon as possible upon receipt of this letter. Proof of publication, i.e., newspaper affidavit, must be provided to the permitting authority's office within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

Please submit any written comments you wish to have considered concerning the permitting authority's proposed action to Scott M. Sheplak, P.E., at the above letterhead address. If you have any other questions, please contact Wendy Alexander, at 850/921-9527.

Sincerely,

*fw*   
C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CHF/wa

Enclosures

cc: Mr. Gregg Worley, U.S. EPA, Region 4 (INTERNET E-mail Memorandum)  
Ms. Elizabeth Bartlett, U.S. EPA, Region 4 (INTERNET E-mail Memorandum)

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Printed on recycled paper.

In the Matter of an  
Application for Permit by:

Wheelabrator North Broward, Inc.  
2600 N.W. 48<sup>th</sup> Street  
Pompano Beach, Florida 33073

---

DRAFT Permit No.: 0112120-001 -AV  
North Broward Waste-to-Energy Facility  
Broward County

### **INTENT TO ISSUE TITLE V AIR OPERATION PERMIT**

The Department of Environmental Protection (permitting authority) gives notice of its intent to issue a Title V air operation permit (copy of DRAFT Permit attached) for the Title V source detailed in the application specified above, for the reasons stated below.

The applicant, Wheelabrator North Broward, Inc., applied on June 17 1996, to the permitting authority for a Title V air operation permit for the North Broward Waste-to-Energy Facility located at 2600 N.W. 48<sup>th</sup> Street, Pompano Beach, Broward County.

The permitting authority has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-213. This source is not exempt from Title V permitting procedures. The permitting authority has determined that a Title V air operation permit is required to commence or continue operations at the described facility.

The permitting authority intends to issue this Title V air operation permit based on the belief that reasonable assurances have been provided to indicate that operation of the source will not adversely impact air quality, and the source will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-256, 62-257, 62-281, 62-296, and 62-297, F.A.C.

Pursuant to Sections 403.815 and 403.087, F.S., and Rules 62-110.106 and 62-210.350(3), F.A.C., you (the applicant) are required to publish at your own expense the enclosed "PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT." The notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one with significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the permitting authority at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax: 850/922-6979), within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit pursuant to Rule 62-110.106, F.A.C.

The permitting authority will issue the Title V PROPOSED Permit, and subsequent Title V FINAL Permit, in accordance with the conditions of the attached Title V DRAFT Permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The permitting authority will accept written comments concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of the "PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT." Written comments should be provided to the permitting authority office. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit, the permitting authority shall issue a Revised DRAFT Permit and require, if applicable, another Public Notice.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/488-9730; Fax: 850/487-4938). Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the permitting authority for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the permitting authority's action is based must contain the following information:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

(c) A statement of how and when each petitioner received notice of the agency action or proposed action;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief;

(f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and,

(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the permitting authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the permitting authority's final action may be different from the position taken by it in this notice of intent. Persons whose substantial interests will be affected by any such final decision of the permitting authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation will not be available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply to the Department of Environmental Protection for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542, F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information:

(a) The name, address, and telephone number of the petitioner;

(b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any;

(c) Each rule or portion of a rule from which a variance or waiver is requested;

(d) The citation to the statute underlying (implemented by) the rule identified in (c) above;

(e) The type of action requested;

(f) The specific facts that would justify a variance or waiver for the petitioner;

(g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and,

(h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

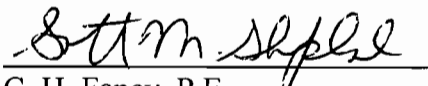
The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2), F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the United States Environmental Protection Agency and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Finally, pursuant to 42 United States Code (U.S.C.) Section 7661d(b)(2), any person may petition the Administrator of the EPA within 60 (sixty) days of the expiration of the Administrator's 45 (forty-five) day review period as established at 42 U.S.C. Section 7661d(b)(1), to object to issuance of any permit. Any petition shall be based only on objections to the permit that were raised with reasonable specificity during the 30 (thirty) day public comment period provided in this notice, unless the petitioner demonstrates to the Administrator of the EPA that it was impracticable to raise such objections within the comment period or unless the grounds for such objection arose after the comment period. Filing of a petition with the Administrator of the EPA does not stay the effective date of any permit properly issued pursuant to the provisions of Chapter 62-213, F.A.C. Petitions filed with the Administrator of EPA must meet the requirements of 42 U.S.C. Section 7661d(b)(2) and must be filed with the Administrator of the EPA at: U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460.

Executed in Tallahassee, Florida.

**STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION**

*for*   
C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE TITLE V AIR OPERATION PERMIT (including the PUBLIC NOTICE and the DRAFT permit) and all copies were sent by certified mail before the close of business on 10/22/99 to the person(s) listed:

Thomas D. Kirk, Plant Manager, Wheelabrator North Broward, Inc.

In addition, the undersigned duly designated deputy agency clerk hereby certifies that copies of this INTENT TO ISSUE TITLE V AIR OPERATION PERMIT (including the PUBLIC NOTICE and the DRAFT permit) were sent by U.S. mail on the same date to the person(s) listed or as otherwise noted:

James Jackson Smith, P.E., Rust Engineering & Construction  
Gregg Worley, U.S. EPA, Region 4 (INTERNET E-mail Memorandum)  
Elizabeth Bartlett, U.S. EPA, Region 4 (INTERNET E-mail Memorandum)  
Hamilton S. Oven, Jr., P.E., DEP, Siting Coordination Office  
Isidore Goldman, P.E, DEP, Southeast District Office  
Daniela Banu, Director, Broward County Department of Natural Resource Protection

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency Clerk, receipt of which is hereby acknowledged.

Barbara J. Boutwell 10/22/99  
(Clerk) (Date)

**PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Title V DRAFT Permit No.: 0112120-001-AV  
North Broward Waste-to-Energy Facility  
Broward County

The Department of Environmental Protection (permitting authority) gives notice of its intent to issue a Title V air operation permit to Wheelabrator North Broward, Inc. for the North Broward Waste-to-Energy Facility located at 2600 N.W. 48<sup>th</sup> Street, Pompano Beach, Broward County. The applicant's name and address are: Wheelabrator North Broward, Inc., 2600 N.W. 48<sup>th</sup> Street, Pompano Beach, Florida, 33073.

The permitting authority will issue the Title V PROPOSED Permit, and subsequent Title V FINAL Permit, in accordance with the conditions of the Title V DRAFT Permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The permitting authority will accept written comments concerning the proposed Title V DRAFT Permit issuance action for a period of 30 (thirty) days from the date of publication of this Notice. Written comments should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit, the permitting authority shall issue a Revised DRAFT Permit and require, if applicable, another Public Notice.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 of the Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/488-9730; Fax: 850/487-4938). Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of the notice of intent, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the permitting authority for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the applicable time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code (F.A.C.).

A petition that disputes the material facts on which the permitting authority's action is based must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address and telephone number of the petitioner; name address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how petitioner's substantial rights will be affected by the agency determination;
- (c) A statement of how and when the petitioner received notice of the agency action or proposed action;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so state;



(e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle petitioner to relief;

(f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and,

(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the permitting authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the permitting authority's final action may be different from the position taken by it in this notice of intent. Persons whose substantial interests will be affected by any such final decision of the permitting authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation is not available for this proceeding.

In addition to the above, pursuant to 42 United States Code (U.S.C.) Section 7661d(b)(2), any person may petition the Administrator of the EPA within 60 (sixty) days of the expiration of the Administrator's 45 (forty-five) day review period as established at 42 U.S.C. Section 7661d(b)(1), to object to issuance of any permit. Any petition shall be based only on objections to the permit that were raised with reasonable specificity during the 30 (thirty) day public comment period provided in this notice, unless the petitioner demonstrates to the Administrator of the EPA that it was impracticable to raise such objections within the comment period or unless the grounds for such objection arose after the comment period. Filing of a petition with the Administrator of the EPA does not stay the effective date of any permit properly issued pursuant to the provisions of Chapter 62-213, F.A.C. Petitions filed with the Administrator of EPA must meet the requirements of 42 U.S.C. Section 7661d(b)(2) and must be filed with the Administrator of the EPA at: U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Permitting Authority:

Department of Environmental Protection  
Bureau of Air Regulation  
111 South Magnolia Drive, Suite 4  
Tallahassee, Florida 32301  
Telephone: 850/488-0114  
Fax: 850/922-6979

Affected District/Local Programs:

Department of Environmental Protection  
Southeast District Office  
400 North Congress Avenue  
West Palm Beach, Florida 33416-5425  
Telephone: 561/681-6600  
Fax: 561/681-6755

Broward County  
Department of Natural Resource Protection  
Air Quality Division  
218 Southeast First Avenue  
Ft. Lauderdale, Florida 33301  
Telephone: 954/519-1220  
Fax: 954/519-1495

The complete project file includes the DRAFT Permit, the application, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact Scott M. Sheplak, P.E., at the above address, or call 850/921-9532, for additional information.

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1.  Addressee's Address
2.  Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mr. Thomas D. Kirk  
 Plant Manager  
 Wheelabrator North Broward, Inc.  
 2600 N.W. 48th Street  
 Pompano Beach, Florida 33073

4a. Article Number

Z 094 212 689

4b. Service Type

Registered  Certified  
 Express Mail  Insured  
 Return Receipt for Merchandise  COD

7. Date of Delivery

10/25/99

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)

X *[Signature]*

Thank you for using Return Receipt Service.

Z 094 212 689

US Postal Service  
**Receipt for Certified Mail**

No Insurance Coverage Provided.  
 Do not use for International Mail (See reverse)

Sent to  
 MR. Thomas D. Kirk  
 Street & Number  
 2600 N.W. 48th Street  
 Post Office, State, & ZIP Code  
 Pompano Beach, FL 33073

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
<b>TOTAL Postage &amp; Fees</b>	<b>\$1</b>

PS Form 3800 April 1995

Postmark or Date 10/22/99  
 DRAFT Title V Permit No. 6112/20-001-A

# STATEMENT OF BASIS

Wheelabrator North Broward, Inc.  
North Broward Waste-to-Energy Facility  
**Facility ID No.:** 0112120  
Broward County

Initial Title V Air Operation Permit  
**DRAFT Permit No.:** 0112120-001-AV

This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-213. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

This facility consists of three municipal solid waste (MSW)-fired steam generators (boilers) with auxiliary fossil fuel-fired burners, lime storage and processing facilities, ash storage and processing facilities, a cooling tower, and ancillary support equipment. The nominal (generator nameplate) electric generating capacity of the facility is 67.6 megawatts (MW), which is sold to the local utility. Also included in this permit are miscellaneous insignificant emissions units and/or activities.

Emissions unit numbers -001, -002, and -003 are Babcock and Wilcox manufactured municipal solid waste (MSW) combustors designated as "Unit 1", "Unit 2", and "Unit 3", respectively. Each unit consists of an integrated mass-burn furnace and multi-pass waterwall type boiler. All three units began commercial operation April 1992. Units 1, 2, and 3 are each limited to a maximum steam production rate of 186,000 pounds per hour (lbs/hr) when firing MSW. Each unit is equipped with two auxiliary natural gas or distillate fuel oil-fired burners for periods of start-up, shutdown, and at other times when necessary and consistent with good combustion practices. These emissions units are regulated under NSPS - 40 CFR 60, Subpart Cb, Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors That Are Constructed on or Before September 20, 1994, NSPS - 40 CFR 60, Subpart E, Standards of Performance for Incinerators, and NESHAP - 40 CFR 61, Subpart C, NESHAP for Beryllium.

Spray dry absorbers and baghouses control SO<sub>2</sub>, acid gases, particulates, and some metals emissions from Units 1, 2, and 3, while good combustion practices control CO and NO<sub>x</sub> emissions. Pre-combustion waste separation is used to reduce mercury emissions. Odor is controlled by drawing combustion air from the refuse tipping area. Following retrofit to comply with NSPS - 40 CFR 60, Subpart Cb, Selective Non-Catalytic Reduction (SNCR) will be used for NO<sub>x</sub> control. Also, continuous emission monitoring systems (CEMS) for SO<sub>2</sub>, NO<sub>x</sub>, CO and opacity will be used for compliance.

Emissions unit -004 is a 236 ton capacity silo for storage of pebble lime. It is part of the spray dry absorber (SDA) system used for control of acid gases and sulfur dioxide emissions from the municipal waste combustion units. A supply truck pneumatically transfers pebble lime to the silo through a fill line. A Wheelabrator Air Pollution Control Jet III baghouse (Model No. 1016, BA-108) is used to control particulate matter emissions during silo filling.

Emissions unit -005 is the Ash Handling System. It receives fly ash and spray dryer reactive products. Particulate matter and visible emissions from the ash handling system are controlled by a MAC Filter (Model 120 LST 100) baghouse.

Based on the initial Title V permit application received June 17, 1996, this facility is a major source of hazardous air pollutants (HAPs).

Wheelabrator North Broward, Inc.  
North Broward Waste-To-Energy Facility  
**Facility ID No.:** 0112120  
Broward County

**Initial Title V Air Operation Permit**  
**DRAFT Permit No.:** 0112120-001-AV

**Permitting Authority**

State of Florida  
Department of Environmental Protection  
Division of Air Resources Management  
Bureau of Air Regulation  
Title V Section

Mail Station #5505  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400  
Telephone: 850/488-0114  
Fax: 850/922-6979

**Compliance Authority**

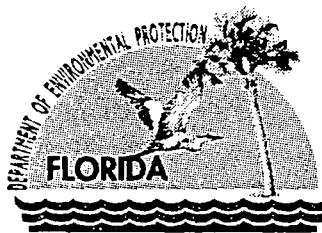
State of Florida  
Department of Environmental Protection  
Southeast District Office  
400 North Congress Avenue  
West Palm Beach, Florida 33416-5425  
Telephone: 561/681-6600  
Fax: 561/681-6755

# Initial Title V Air Operation Permit

**DRAFT Permit No.:** 0112120-001-AV

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Jeb Bush  
Governor

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

David B. Struhs  
Secretary

**Permittee:**

Wheelabrator North Broward, Inc.  
2600 N.W. 48<sup>th</sup> Street  
Pompano Beach, Florida 33073

**DRAFT Permit No.:** 0112120-001-AV

**Facility ID No.:** 0112120

**SIC Nos.:** 49, 4953

**Project:** Initial Title V Air Operation Permit

This permit is for the operation of the North Broward County Waste-To-Energy Facility located at 2600 N.W. 48<sup>th</sup> Street, Pompano Beach, Broward County. UTM Coordinates: Zone 17, 583.541 km East and 2907.498 km North; Latitude: 26° 17' 12" North and Longitude: 80° 09' 48" West.

STATEMENT OF BASIS: This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-213. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

**Referenced attachments made a part of this permit:**

Appendix EFF, Calorimeter Method of Boiler Efficiency Determination

Appendix I-1, List of Insignificant Emissions Units and/or Activities

Appendix SS-1, Stack Sampling Facilities (version dated 10/7/96)

Appendix TV-3, Title V Conditions (version dated 04/30/99)

Figure 1: Summary Report-Gaseous and Opacity Excess Emission and Monitoring  
System Performance (40 CFR 60)

Table 297.310-1, Calibration Schedule

**Effective Date:**

**Renewal Application Due Date:**

**Expiration Date:**

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Howard L. Rhodes, Director,  
Division of Air Resources Management

HLR/sms/wa

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## Section I. Facility Information.

### Subsection A. Facility Description.

This facility consists of three municipal solid waste combustors (Unit Nos. 1, 2 and 3) with auxiliary burners, lime storage and processing facilities, ash storage and processing facilities, a cooling tower, and ancillary support equipment. The nominal (generator nameplate) electric generating capacity of the facility is 67.6 megawatts (MW), which is sold to the local utility. Also included in this permit are miscellaneous insignificant emissions units and/or activities.

Based on the initial Title V permit application received June 17, 1996, this facility is a major source of hazardous air pollutants (HAPs).

The use of 'Permitting Notes' throughout this permit are for informational purposes, only, and are not permit conditions.

### Subsection B. Summary of Emissions Unit ID Numbers and Brief Descriptions.

<b>E.U. ID No.</b>	<b>Brief Description</b>
-001	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 1
-002	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 2
-003	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 3
-004	236 Ton Lime Silo
-005	Ash Handling System with a Baghouse

*Please reference the Permit Number, the Facility Identification Number, and the appropriate Emissions Unit(s) ID Number(s) on all correspondence, test report submittals, applications, etc.*

### Subsection C. Relevant Documents.

{Permitting Note: The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.}

These documents are provided to the permittee for informational purposes:

- Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers (version dated 2/5/97)
- Appendix H-1, Permit History / ID Number Transfers
- Table 1-1, Summary of Air Pollutant Standards and Terms
- Table 2-1, Summary of Compliance Requirements

These documents are on file with the permitting authority:

Initial Title V Permit Application Received June 17, 1996



## **Section II. Facility-wide Conditions.**

### **The following conditions apply facility-wide:**

1. Appendix TV-3, Title V Conditions, is a part of this permit.  
{Permitting note: Appendix TV-3, Title V Conditions is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided one copy when requested or otherwise appropriate. If desired, a copy of Appendix TV-3, Title V Conditions can be downloaded from the Division of Air Resources Management's Internet Web site located at the following address:  
"http://www.dep.state.fl.us/air/permitting/TitleVperm.htm".}
2. **Not federally enforceable.** General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.  
[Rule 62-296.320(2), F.A.C.]
3. Prevention of Accidental Releases (Section 112(r) of CAA).
  - a. The permittee shall submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center when, and if, such requirement becomes applicable ; and
  - b. The permittee shall submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.  
[40 CFR 68]
4. Insignificant Emissions Units and/or Activities. Appendix I-1, List of Insignificant Emissions Units and/or Activities, is a part of this permit.  
[Rules 62-213.440(1), 62-213.430(6), and 62-4.040(1)(b), F.A.C.]
5. General Pollutant Emission Limiting Standards. Volatile Organic Compounds Emissions or Organic Solvents Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.  
{Permitting Note: No vapor emission control devices or systems are deemed necessary nor ordered by the Department as of the issuance date of this permit.}  
[Rule 62-296.320(1)(a), F.A.C.]
6. General Particulate Emission Limiting Standards. General Visible Emissions Standard. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.  
[Rules 62-296.320(4)(b)1. & 4., F.A.C.]
7. **Not federally enforceable.** Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:
  - a) Vehicular traffic areas such as road and parking areas are paved, swept, and watered.
  - b) Water is applied to areas that are unvegetated because of new construction/operation activities.

c) All conveyor systems are enclosed and maintained to minimize leaks.

{Permitting Note: This condition presents the reasonable precautions to be implemented in accordance with Rule 62-296.320(4)(c), F.A.C., in lieu of the requirements of Condition No. 58 of Appendix TV-3.}  
[Rule 62-296.320(4)(c)2., F.A.C.; and, Proposed by applicant in initial Title V permit application received June 17, 1996.]

**8. Not federally enforceable. Unconfined Emissions.** Proper dust control techniques such as water sprays or chemical wetting agents or other containment method shall be used to control visible unconfined (fugitive) emissions to the outside air to no more than 10% opacity as determined by DEP Method 9 for unconfined resource recovery processes. Proper techniques shall also be used to control such emissions to prevent them from crossing the property line(s) from any other unconfined sources and to limit them to no more than three (3) minutes (cumulative) in any fifteen (15) minute period as determined by 40 CFR, 60, Appendix A, Method 22, with observations being made along the property line. Visible emissions shall not include uncombined water vapor or emissions from engine exhausts.  
[PA 86-22]

**9.** When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one.  
[Rule 62-213.440, F.A.C.]

**10.** The permittee shall submit all compliance related notifications and reports required of this permit to the Department of Environmental Protection (DEP) Southeast District Office:

State of Florida  
Department of Environmental Protection  
Southeast District Office  
400 North Congress Avenue  
West Palm Beach, Florida 33416-5425  
Telephone: 561/681-6600  
Fax: 561/681-6755

**11.** Any reports, data, notifications, certifications, required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency, Region 4  
Air, Pesticides & Toxics Management Division  
Air & EPCRA Enforcement Branch  
Air Enforcement Section  
61 Forsyth Street  
Atlanta, Georgia 30303  
Telephone: 404/562-9155  
Fax: 404/562-9163 or  
404/562-9164

### Section III. Emissions Units and Conditions.

**Subsection A. This section addresses the following emissions units.**

E.U. ID No.	Brief Description
-001	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 1
-002	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 2
-003	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 3

Emissions units numbers -001, -002, and -003 are Babcock and Wilcox manufactured municipal solid waste (MSW) combustors designated as "Unit 1", "Unit 2" and "Unit 3", respectively. Each unit consists of an integrated mass-burn furnace and multi-pass waterwall type boiler with a *nominal* design rate capacity of 747 tons MSW per day (TPD) and 280 million British thermal units per hour (MMBtu/hr) heat input when burning solid waste with a heat content of 4,500 British thermal units per pound (Btu/lb). Therefore, the facility has a nameplate (nominal) waste processing rate of 2,241 TPD (@4,500 Btu/lb). Two auxiliary distillate fuel oil or natural gas fired burners are associated with each MSW combustor. The burners are used to fire the MSW combustors during start-up, shutdown, and at other times when necessary and consistent with good combustion practices. The maximum permitted steam production rate of each unit is 186,000 lbs/hr when firing municipal solid waste. Steam flow is the main process throughput parameter to be monitored for these units.

Units 1, 2 and 3 began commercial operation April 1992. Particulate matter, some metals (Pb, Hg, Be), SO<sub>2</sub>, and acid gas emissions from Units 1, 2 and 3 are controlled by separate baghouses and spray dry absorbers, while CO and NO<sub>x</sub> emissions are controlled by good combustion controls. Mercury emissions are reduced by pre-combustion waste separation. Odor is controlled by drawing combustion air from the refuse tipping area. Units 1, 2 and 3 share a common turbine and stack containing one flue for each unit. Stack height = 195 feet, exit diameter = 7.5 feet, exit temperature < 300°F, actual volumetric flow rate = 169,000 acfm.

{Permitting notes. These emissions units are regulated under NSPS - 40 CFR 60, Subpart E, Standards of Performance for Incinerators, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C.; NESHAP - 40 CFR 61, Subpart C, NESHAP for Beryllium, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C.; Rule 62-212.400(5), F.A.C., Prevention of Significant Deterioration (PSD) (PSD-FL-112(B)); Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT); Rule 62-296.401(2), F.A.C., Incinerators; Rule 62-296.416, F.A.C., Waste-to-Energy Facilities; and, PA 86-22(A&B).}

**The following specific conditions apply to the emissions unit(s) listed above:**

{Permitting note: The following specific conditions contained in this subsection (subsection A) shall apply to Units 1, 2 and 3 until the units are retrofitted with new emission control systems and compliance testing is completed. Thereafter, the specific conditions contained in subsection B. shall apply and subsection A. shall be obsolete.}

## **General**

**A.1.** The Standards of Performance for New Stationary Sources, adopted by reference in Rule 62-204.800(7), F.A.C., and the National Emissions Standards for Hazardous Air Pollutants, adopted by reference in Rule 62-204.800(9), F.A.C., shall be controlling over other standards in the air pollution rules of the Department except that any emissions limiting standard contained in or determined pursuant to the air pollution rules of the Department which is more stringent than one contained in a Standard of Performance or a National Emission Standard, or which regulates emissions of pollutants or emissions units not regulated by an applicable Standard of Performance or National Emission Standard, shall apply. [Rules 62-204.800(7)(c) and (9)(c), F.A.C.]

**A.2. Definitions.** For the purposes of Rules 62-204.800(7) and (9), F.A.C., the definitions contained in the various provisions of 40 CFR Parts 60 and 61, adopted herein shall apply, except that the term "Administrator" when used in 40 CFR Parts 60 and 61, shall mean the Secretary or the Secretary's designee, except as noted in 40 CFR 61.157. [40 CFR 60.2; and, Rules 62-204.800(7)(a) and (9)(a), F.A.C.]

**A.3. Circumvention.** No owner or operator subject to the provisions of 40 CFR 60 shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. [40 CFR 60.12]

**A.4. Notification and Reporting Requirements.** For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be postmarked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be delivered or postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the postmark provided by the U.S. Postal Service, or alternative means of delivery, including the use of electronic media, agreed to by the permitting authority, is acceptable. [40 CFR 60.19(b)]

**A.5.** Each incinerator boiler shall have a metal name plate affixed in a conspicuous place on the shell showing manufacturer, model number, type waste, rated capacity and certification number. [PSD-FL-112]

**A.6. Air Pollution Control Equipment.** The permittee shall have installed, shall continuously operate, and shall maintain the following air pollution controls to minimize emissions. Controls listed shall be fully operational upon startup of the equipment.

- a. Each boiler is equipped with a particulate emission control device for the control of particulates.
  - b. Each boiler is equipped with an acid gas control device designed to remove at least 90% of the acid gases.
  - c. Mercury is controlled by source separation techniques pursuant to Rule 62-296.416, F.A.C.
- [PSD-FL-112(B)]

**A.7. Not federally enforceable.** Each boiler particulate emission control device shall be designed and constructed to achieve a maximum emission rate of 0.015 grains per dscf, corrected to 12% CO<sub>2</sub>.  
[PA 86-22]

**A.8. Not federally enforceable.** The temperature of the flue gases exiting the acid gas control equipment shall not exceed 300 degrees F.  
[PA 86-22]

**A.9. Not federally enforceable.** The temperature of the flue gas exiting the combustion chamber of the incinerator shall be equal to or greater than 1,800 degrees F.  
[PA 86-22]

**A.10.** These units are subject to all applicable requirements of 40 CFR 60 Subpart E, NSPS for Incinerators; 40 CFR 61 Subpart C, NESHAP for Beryllium; and, Rule 62-296.416 F.A.C., Waste-to-Energy Facilities, except that where requirements in this permit are more restrictive, the requirements in this permit shall apply.  
[PSD-FL-112(B)]

**A.11. Relationship to Best Available Control Technology.** The emission limitations in Rule 62-296.416, F.A.C. supersede any less stringent emission limitations including those based on a best available control technology (BACT) determination made pursuant to Rule 62-212.400, F.A.C., or 40 CFR 52.21. The application of BACT shall not result in emissions of any air contaminant which exceeds the emission limits set forth in Rule 62-296.416, F.A.C.  
[Rule 62-296.416(2), F.A.C.]

### **Essential Potential to Emit (PTE) Parameters**

**A.12. Permitted Capacity.** The maximum individual MWC throughput shall not exceed 807 tons MSW per day (2,420 tons per day entire facility) and 302.5 MMBtu per hour (108% rated capacity) nor produce in excess of 186,000 pounds steam per hour based on a 4-hour block arithmetic average.  
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; PSD-FL-112(B)]

**A.13. Emissions Unit Operating Rate Limitation After Testing.** See specific condition **A.67**.  
[Rule 62-297.310(2), F.A.C.]

#### **A.14. Methods of Operation – Fuels.**

##### **a. Municipal Solid Waste Combustors.**

(1) **Municipal Solid Waste.** The primary fuel for this facility is municipal solid waste (MSW), including the items and materials that fit within the definition of MSW contained in either 40 CFR 60.51b or Section 403.706(5), F.S.

(2) **Unauthorized Fuel.** Subject to the limitations contained in this permit, the authorized fuels for the facility also include the other solid wastes that are not MSW which are described in (4), (5) and (6), below. However, the facility shall not burn:

- (a) those materials that are prohibited by state or federal law;
- (b) those materials that are prohibited by this permit;
- (c) those materials that are not authorized by this permit;
- (d) lead acid batteries;
- (e) hazardous waste;

- (f) nuclear waste;
- (g) radioactive waste;
- (h) sewage sludge;
- (i) explosives; and
- (j) asbestos containing materials.

(3) The fuel may be received either as a mixture or as a single-item stream (segregated load) of discarded materials. If the facility intends to use an authorized fuel that is segregated non-MSW material, the fuel shall be either:

- (a) well mixed with MSW in the refuse pit; or
- (b) alternately charged with MSW in the hopper.

The facility owner/operator shall prepare and maintain records concerning the description and quantities of all segregated loads of non-MSW material which are received and used as fuel at the facility, and subject to a percentage weight limitation, below [(5) and (6)]. For the purposes of this permit, a segregated load is defined to mean a container or truck that is almost completely or exclusively filled with a single item or homogeneous composition of waste material, as determined by visual inspection.

(4) Other Solid Waste. Subject to the conditions and limitations contained in this permit, the following other solid waste may be used as fuel at the facility:

- (a) Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons, credit cards, magnetic tape and microfilm);
- (b) Contraband which is being destroyed at the request of appropriately authorized local, state or federal governmental agencies, provided that such material is not an explosive, a propellant, a hazardous waste, or otherwise prohibited at the facility. For the purposes of this section, contraband includes but is not limited to drugs, narcotics, fruits, vegetables, plants, counterfeit money, and counterfeit consumer goods;
- (c) Wood pallets, clean wood and land clearing debris;
- (d) Packaging materials and containers;
- (e) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves; and
- (f) Rugs, carpets, and floor coverings.

(5) Waste Tires. Subject to the conditions and limitations contained in this permit, waste tires may be used as fuel at the facility. The total quantity of waste tires received as segregated loads and burned at the facility shall not exceed 3%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average in accordance with specific condition **A.85.**, below.

(6) Other Solid Waste/Segregated Loads. Subject to the conditions and limitations contained in this permit, the following other solid waste materials may be used as fuel at the facility (i.e. the following are authorized fuels that are non-MSW material). The total quantity of the following non-MSW material received as segregated loads and burned at the facility shall not exceed 5%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average in accordance with specific condition **A.85.**, below.

- (a) Construction and demolition debris.
- (b) Oil spill debris from aquatic, coastal, estuarine or river environments. Such items or materials include but are not limited to rags, wipes, and absorbents.
- (c) Items suitable for human, plant or domesticated animal use, consumption or application where the item's shelf-life has expired or the generator wishes to remove the items from the market. Such items or materials include but are not limited to off-specification or expired consumer products, pharmaceuticals, medications, health and personal care products, cosmetics, foodstuffs, nutritional supplements, returned goods, and controlled substances.

- (d) Consumer-packaged products intended for human or domesticated animal use or application but not consumption. Such items or materials include but are not limited to carpet cleaners, household or bathroom cleaners, polishes, waxes and detergents.
  - (e) Waste materials that:
    - (i) are generated in the manufacture of items in categories (c) or (d), above and are functionally or commercially useless (expired, rejected or spent); or
    - (ii) are not yet formed or packaged for commercial distribution. Such items or materials must be substantially similar to other items or materials routinely found in MSW.
  - (f) Waste materials that contain oil from:
    - (i) the routine cleanup of industrial or commercial establishments and machinery; or
    - (ii) spills of virgin or used petroleum products. Such items or materials include but are not limited to rags, wipes, and absorbents.
  - (g) Used oil and used oil filters. Used oil containing a PCB concentration equal or greater than 50 ppm shall not be burned, pursuant to the limitations of 40 CFR 761.20(e).
  - (h) Waste materials generated by manufacturing, industrial or agricultural activities, provided that these items or materials are substantially similar to items or materials that are found routinely in MSW, subject to prior approval of the Department.
- b. Auxiliary Burners. Only distillate fuel oil or natural gas shall be used in the startup burners. Natural gas may be used as fuel during warm-up, startup, shutdown, malfunction periods, and at other times when necessary and consistent with good combustion practices. The distillate fuel oil and natural gas shall not be used more than required during boiler startup or shutdown. The annual capacity factor for use of natural gas and oil shall be less than 10%. The annual capacity factor for natural gas/distillate fuel oil is the ratio between the heat input to the unit from natural gas/distillate fuel oil during a calendar year and the potential heat input to the unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity.
- c. Other fuels or wastes shall not be burned in the MSW combustors without prior specific written approval of the Secretary of the Department of Environmental Protection.  
[Rules 62-4.160(2), 62-210.200, and 62-213.440(1), F.A.C.; PSD-FL-112(B); and, PA 86-22]

**A.15. Hours of Operation.** MWC Units 1, 2 and 3 are allowed to operate continuously, i.e., 8,760 hours/year, each.  
[Rule 62-210.200(PTE), F.A.C.]

**Emission Limitations and Standards**

{Permitting Note: The attached Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit. When subject to different federal, state, local, and/or permit limits, the most stringent limit takes precedence. For PM, meeting the PSD-FL-112 limit assures compliance with NSPS limit 40 CFR 60.52(a) and with Rule 62-296.401(2), F.A.C. For Be, meeting the PSD-FL-112 limit assures compliance with NESHAP limit 40 CFR 61.32(a). For Hg, meeting the Rule 62-296.416(b) limit assures compliance with the PSD-FL-112 limit.}

**A.16. Emission Limits.** Stack emissions from each unit shall not exceed the following:

Particulate (PM)	0.0150 gr/dscf dry volume corrected to 12% CO <sub>2</sub> .
Sulfur Dioxide (SO <sub>2</sub> )	(1) 0.140 lb/mmBtu heat input and 60 ppm (3-hr rolling average, dry volume, corrected to 12% CO <sub>2</sub> ); or (2) 65% reduction of uncontrolled SO <sub>2</sub> emissions. In no case shall the SO <sub>2</sub> emissions exceed 0.140 lb/mmBtu heat input and 60 ppm (3-hr rolling average, dry volume, corrected to 12% CO <sub>2</sub> ).*
Nitrogen Oxides (NO <sub>x</sub> )	0.560 lb/mmBtu heat input and 350 ppm (3-hr rolling average, dry volume, corrected to 12% CO <sub>2</sub> ).
Carbon Monoxide (CO)	0.090 lb/mmBtu heat input; 400 ppm (1-hr rolling average, dry volume, corrected to 12% CO <sub>2</sub> ); and 88 ppm (4-day rolling average, dry volume, corrected to 12% CO <sub>2</sub> ).
Lead (Pb)	0.00056 lb/mmBtu
Fluorides (Fl)	0.0040 lb/mmBtu
Beryllium (Be)	9.30 x 10 <sup>-7</sup> lb/mmBtu
Mercury (Hg)	7.50 x 10 <sup>-4</sup> lb/mmBtu

\*Uncontrolled SO<sub>2</sub> emissions will be measured at the inlet to the acid gas control device. The upper limit for 65% reduction of uncontrolled SO<sub>2</sub> emissions was modified as specified in PSD-FL-112. A one-tailed student T test statistical analysis at the 95% confidence level was performed on compliance test results submitted June 26, 1992. The calculated mean SO<sub>2</sub> emission rate was found to be less than 60 ppmvd, corrected to 12% CO<sub>2</sub>. The final upper limit value was changed to 60 ppmvd, corrected to 12% because PSD-FL-112 restricted the final value to no less than 60 ppmvd, corrected to 12% CO<sub>2</sub>.  
 [PSD-FL-112]

**A.17. Not federally enforceable.** Stack emissions from each unit shall not exceed the following:

Volatile Organic Compound (VOC)	0.013 lb/mmBtu
Arsenic (As)	3.1 x 10 <sup>-5</sup> lb/mmBtu
Sulfuric Acid Mist (SAM)	0.047 lb/mmBtu

[PA 86-22]

**A.18. Visible Emissions.** Opacity of stack emissions shall not be greater than 15% opacity.  
 [PSD-FL-112]

**A.19. Not federally enforceable. Visible Emissions.** Visible emissions of no more than 20% opacity may be allowed for up to three consecutive minutes in any one hour except during start up or upsets when the provisions of 62-210.700 , F.A.C., shall apply.  
 [PA 86-22]



**A.20. Ash Handling Facilities.** The potential for dust generation by ash handling activities will be mitigated by quenching or conditioning the ash prior to loading in ash transport trucks. Ash handling facilities shall be enclosed (including the proposed future metal recovery area). Unprocessed refuse storage areas which must be open for operational purposes (e.g., tipping floor of the refuse bunker while trucks are entering and leaving) will be under negative air pressure. Residue from the grates, and grate siftings shall be discharged into the bottom ash quenching system, and ash from the combustor/boiler and fabric filter hoppers shall be discharged into the fly ash conditioning system during normal operations to minimize visible dust generation. The ash/residue in the Ash Handling Building shall remain sufficiently moist to minimize dust during storage and handling operations. Compliance with this condition shall be determined in accordance with specific condition **A.49.**

[PSD-FL-112(B)]

**A.21. Not federally enforceable. Sulfur Content.** The sulfur content of the distillate fuel oil or natural gas for the auxiliary burner shall not exceed 0.3%, by weight.

[PA-86-22]

{Permitting Note: For Be, meeting the PSD-FL-112 emissions limit in specific condition **A.16.** assures compliance with NESHAP limit 40 CFR 61.32(a), given below.}

**A.22.** Emissions to the atmosphere from stationary sources subject to 40 CFR 61, Subpart C shall not exceed 10 grams of beryllium over a 24-hour period.

[40 CFR 61.32(a)]

**A.23.** The burning of beryllium and/or beryllium-containing waste, except propellants, is prohibited except in incinerators, emissions from which must comply with the standard in 40 CFR 61.32(a).

[40 CFR 61.32(c)]

{Permitting Note: For PM, meeting the PSD-FL-112 emissions limit in specific condition **A.16.** assures compliance with NSPS limit 40 CFR 60.52(a) and with Rule 62-296.401(2), F.A.C., given below}

**A.24.** On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of 40 CFR 60, Subpart E shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 0.18 g/dscm (0.08 gr/dscf), corrected to 12 % CO<sub>2</sub>.

[40 CFR 60.52(a)]

**A.25.** Existing incinerators, other than those which are operated or utilized for the disposal or treatment of biological waste, with a charging rate equal to or greater than 50 tons per day.

(a) Particulate matter - 0.1 grains per standard cubic foot dry gas corrected to 50 percent excess air.

[Rule 62-296.401(2)]

{Permitting Note: For Hg, meeting the Rule 62-296.416(b), F.A.C. emissions limit in specific condition **A.26.** assures compliance with the PSD-FL-112 emissions limit given in specific condition **A.16.**}

**A.26. Emissions Standards for Facilities Using Waste Separation.** The Department recognizes that reduction of mercury emissions from waste-to-energy facilities may be achieved by implementation of mercury waste separation programs. Such programs would require removal of objects containing mercury from the waste stream before the waste is used as a fuel.

1. Facilities with sulfur dioxide and hydrogen chloride control equipment in place or under construction as of July 1, 1993, and which choose to control mercury emissions exclusively through the use of a waste separation program, shall submit a program plan to the Department by March 1, 1994, and shall comply with the following emissions limiting schedule.

a. After July 1, 1995, mercury emissions shall not exceed 140 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O<sub>2</sub>.

b. After July 1, 1997, mercury emissions shall not exceed 70 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O<sub>2</sub>.

2. Beginning no later than July 1, 1994, facilities subject to Rule 62-296.416(3)(b)1., F.A.C., shall perform semiannual individual emissions unit mercury emissions tests. Facilities shall stagger the semiannual testing of individual emissions units such that at least one test is performed quarterly. All tests conducted after July 1, 1995, shall be used to demonstrate compliance with the mercury emissions limiting standards of Rule 62-296.416(3)(b)1., F.A.C.  
[Rule 62-296.416(3)(b), F.A.C.]

### **Excess Emissions**

{Permitting note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of an NSPS or NESHAP provision.}

**A.27.** Excess opacity resulting from startup or shutdown shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess opacity shall be minimized but in no case exceed two hours in any 24-hour period unless specifically authorized by the Department for longer duration.

[PSD-FL-112(B)]

**A.28.** Excess emissions resulting from startup, shutdown, or malfunction of any emissions unit shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

[Rule 62-210.700(1), F.A.C.]

**A.29.** Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during start-up, shutdown, or malfunction shall be prohibited.

[Rule 62-210.700(4), F.A.C.; and, PSD-FL-112(B)]

**A.30.** Excess emissions indicated by the CEM systems shall be considered violations of the applicable opacity limit or operating emission limits (in ppm) for the purposes of this permit provided the data represents accurate emission levels and the CEMs do not exceed the calibration drift (as specified in the respective performance specification tests) on the day when initial and subsequent compliance is determined. The burden of proof to demonstrate that the data does not reflect accurate emission readings shall be the responsibility of the permittee.

[PSD-FL-112]

**A.31.** At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to,

monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[40 CFR 60.11(d)]

## **Monitoring of Operations**

### **A.32. Determination of Process Variables.**

(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

**A.33.** Devices shall have been installed to continuously monitor and record steam production. These devices shall be adequately maintained and operating during all periods of steam production.

[PSD-FL-112]

**A.34.** Prior to the date of startup and thereafter, the permittee shall have installed, shall maintain, and shall operate the following continuous monitoring systems for each boiler exhaust stack:

(1) Continuous emission monitoring (CEM) systems to measure stack gas opacity and SO<sub>2</sub>, NO<sub>x</sub>, CO and O<sub>2</sub> concentrations for each unit. Continuous monitors for SO<sub>2</sub> shall have been installed after the acid gas control device for each unit. The systems shall meet the EPA monitoring performance specifications of 40 CFR 60.13 and 40 CFR 60, Appendix B, annually. Additionally, CEMs shall meet the quality control requirements of 40 CFR 60, Appendix F.

(2) CEM data recorded during periods of startup, shutdown, and malfunction shall be reported but excluded from compliance averaging periods for CO, NO<sub>x</sub> and opacity.

(3) a. CEM data recorded during periods of startup and shutdown shall be excluded from compliance averaging periods for SO<sub>2</sub>.

b. CEM data recorded during periods of acid gas control device malfunctions shall be excluded from compliance averaging periods for SO<sub>2</sub> provided that the preceding thirty day period which ends on the last day of the malfunction period meets an average SO<sub>2</sub> emission limit equal to the SO<sub>2</sub> limit specified in specific condition **A.16**. CEM data must be available for 90% of the operating time for this exemption to apply. A malfunction, as used in this permit, means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

[PSD-FL-112]

**A.35. Not federally enforceable.** The permittee shall have installed and shall operate continuously, on each boiler, monitoring devices for the final combustion chamber temperature and flue gas temperature at the exit of the acid gas removal equipment. The monitoring devices shall have been installed and shall be calibrated and maintained in accordance with the applicable requirements of 40 CFR 60.13, including

certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7(a)(5).  
[PA 86-22]

**A.36. Continuous Monitor Performance Specifications.** If continuous monitoring systems are required by rule or permit to be used for demonstrating compliance with the standards of the Department, they must be installed, maintained and calibrated in accordance with the EPA performance specifications listed below. These Performance Specifications are contained in 40 CFR 60, Appendix B, and are adopted by reference in Rule 62-204.800, F.A.C. The EPA performance specifications that are adopted by reference at Rule 62-204.800, F.A.C., are adopted in their entirety except for those provisions referring to approval of alternative procedures by the Administrator. For purposes of this rule, such alternative procedures may only be approved by the Secretary or his or her designee in accordance with Rule 62-297.620, F.A.C.

- (1) Performance Specification 1--Specifications and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources.
  - (2) Performance Specification 2--Specifications and Test Procedures for SO<sub>2</sub> and NO<sub>x</sub> Continuous Emission Monitoring Systems in Stationary Sources.
  - (3) Performance Specification 3--Specifications and Test Procedures for O<sub>2</sub> and CO<sub>2</sub> Continuous Emission Monitoring Systems in Stationary Sources.
  - (4) Performance Specification 4--Specifications and Test Procedures for Carbon Monoxide Continuous Emission Monitoring Systems in Stationary Sources.
  - (5) Performance Specification 4A--Specifications and Test Procedures for Carbon Monoxide Continuous Emission Monitoring Systems in Stationary Sources.
- [Rule 62-297.520, F.A.C.]

**A.37.** For the purposes of 40 CFR 60.13, all continuous monitoring systems (CMS) required under applicable subparts shall be subject to the provisions of 40 CFR 60.13 upon promulgation of performance specifications for continuous monitoring systems under Appendix B of 40 CFR 60 and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, Appendix F of 40 CFR 60, unless otherwise specified in an applicable subpart or by the Administrator. Appendix F is applicable December 4, 1987.  
[40 CFR 60.13(a)]

**A.38.** If the owner or operator of an affected facility elects to submit continuous opacity monitoring system (COMS) data for compliance with the opacity standard as provided under 40 CFR 60.11(e)(5), he shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, Appendix B, of 40 CFR 60 before the performance test required under 40 CFR 60.8 is conducted. Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the COMS or continuous emission monitoring system (CEMS) during any performance test required under 40 CFR 60.8, or within 30 days thereafter, in accordance with the applicable performance specification in Appendix B of 40 CFR 60. The owner or operator of an affected facility shall conduct COMS or CEMS performance evaluations at such other times as may be required by the Administrator under section 114 of the Act.

- (1) The owner or operator of an affected facility using a COMS to determine opacity compliance during any performance test required under 60.8 and as described in 40 CFR 60.11(e)(5) shall furnish the Administrator two or, upon request, more copies of a written report of the results of the COMS performance evaluation described in 40 CFR 60.13(c) at least 10 days before the performance test required under 60.8 is conducted.  
[40 CFR 60.13(c)(1)]

**A.39.** (1) Owners and operators of all continuous emission monitoring systems (CEMS) installed in accordance with the provisions of this part shall check the zero (or low-level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in Appendix B. The system must allow the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified, whenever specified. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except that for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(2) Unless otherwise approved by the Administrator, the following procedures shall be followed for continuous monitoring systems measuring opacity of emissions. Minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.

[40 CFR 60.13(d)(1) and (2)]

**A.40.** Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR 60.13(d), all continuous monitoring systems (CMS) shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(1) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(2) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 CFR 60.13(e)(1) and (2)]

**A.41.** All continuous monitoring systems (CMS) or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of Appendix B of 40 CFR 60 shall be used.

[40 CFR 60.13(f)]

**A.42.** When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems (CMS) on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable continuous monitoring system on each separate effluent unless the installation of fewer systems is approved by the Administrator. When more than one continuous monitoring system is used to measure the emissions from one affected facility (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required from each continuous monitoring system.

[40 CFR 60.13(g)]

**A.43.** Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages, and for continuous monitoring systems other than opacity, to 1-hour averages for time periods as defined in 40 CFR 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. For continuous monitoring systems other than opacity, 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or non reduced form (e.g., ppm pollutant and percent O<sub>2</sub> or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).

[40 CFR 60.13(h)]

**Required Tests, Test Methods and Procedures**

{Permitting Note: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

**A.44.** The following test methods and procedures for 40 CFR 60 and 61 shall be used for compliance testing:

Purpose / Substance	Test Methods
Selection of sample site and sample traverses	EPA Method 1
Determining stack gas flow rate when converting concentrations to or from mass emission limits.	EPA Method 2
Gas analysis for calculation of percent O <sub>2</sub> and CO <sub>2</sub>	EPA Method 3
Determining stack gas moisture content to convert the flow rate from actual standard cubic feet (ascf) to dry standard cubic feet (dscf) for use in converting concentrations in dry gases to or from mass emission limits	EPA Method 4
PM and associated moisture content (front half catch only)	EPA Method 5 <sup>1</sup>
VE	EPA Method 9
SO <sub>2</sub>	EPA Method 6 or 6C <sup>2</sup>
NO <sub>x</sub>	EPA Method 7 or 7E <sup>3</sup>
CO	EPA Method 10 <sup>1</sup>
Pb and associated moisture content	EPA Method 12 or 29 <sup>1</sup>
Fl and associated moisture content	EPA Method 13A or 13B, or modified Method 5 for fluorides
Hg and associated moisture content	EPA Method 101A or 29 <sup>1</sup>
Be and associated moisture content	EPA Method 103, 104, or 29 <sup>1</sup>

- 1 One sample shall constitute one test run.
- 2 Two samples, taken at approximately 30 minute intervals, shall constitute one test run.
- 3 Four samples, taken at approximately 15 minute intervals, shall constitute one test run.

[PSD-FL-112; PA 86-22; and PA 86-22 Alternate Stack Sampling Procedures Approval letter dated October 4, 1991]

**A.45.** The following test methods and procedures for 40 CFR Parts 60 shall be used for compliance testing:

Purpose / Substance	Test Methods
VOC	EPA Method 18
As	EPA Method 108
SAM	EPA Method 8 (modified with prefilter)

[PA 86-22; and, PA 86-22 Alternate Stack Sampling Procedures Approval letter dated October 4, 1991]

**A.46.** Particulate testing shall include one run during representative soot blowing which shall be averaged proportionally to normal daily operations. Visible emission testing shall be conducted simultaneously with soot blowing and non-soot blowing runs.

[PA 86-22]

**A.47.** The minimum sample volume for EPA Method 5 shall be 30 dry standard cubic feet.

[Rule 62-296.400(2)(c)1., F.A.C.]

**A.48. Mercury Emissions Test Method and Procedures.** All mercury emissions tests performed pursuant to the requirements of this rule shall comply with the following provisions.

1. The test method for mercury shall be EPA Method 29 adopted in Rule 62-297, F.A.C.
2. Test procedures shall meet all applicable requirements of Chapter 62-297, F.A.C.  
[Rule 62-296.416(3)(d), F.A.C.]

**A.49. Fugitive Ash Emissions From Ash Conveying Systems.** No owner or operator of this facility shall cause to be discharged to the atmosphere visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) in excess of 5 % of the observation period (i.e., 9 minutes per 3-hour period) as determined by EPA Reference Method 22. The 5 percent visible ash emission limit does not cover visible ash emissions discharged inside a building or ash conveying systems, but the visible emission limit does cover visible emissions discharged to the atmosphere from buildings or enclosures of ash conveying systems (including conveyor transfer points).

[PSD-FL-112(B)]

**A.50.** Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

[40 CFR 60.8(a)]

**A.51.** Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

[40 CFR 60.8(b)]

**A.52.** Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

[40 CFR 60.8(c)]

**A.53.** The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present.

[40 CFR 60.8(d)]



**A.54.** The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.

(2) Safe sampling platform(s).

(3) Safe access to sampling platform(s).

(4) Utilities for sampling and testing equipment.

{Permitting note: See specific condition **A.70.** and Appendix SS-1, Stack Sampling Facilities (version dated 10/7/96) for State of Florida Stack Sampling Requirements.}

[40 CFR 60.8(e)]

**A.55.** Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

[40 CFR 60.8(f)]

**A.56.** Compliance with standards in 40 CFR 60, other than opacity standards, shall be determined only by performance tests established by 40 CFR 60.8, unless otherwise specified in the applicable standard.

[40 CFR 60.11(a)]

**A.57.** Compliance with opacity standards in 40 CFR 60 shall be determined by conducting observations in accordance with Reference Method 9 in Appendix A of 40 CFR 60, any alternative method that is approved by the Administrator, or as provided in 40 CFR 60.11(e)(5).

[40 CFR 60.11(b)]

**A.58.** The owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under 40 CFR 60.8 in lieu of EPA Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he or she shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under 40 CFR 60.8 is conducted. Once the owner or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under 40 CFR 60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under 40 CFR 60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in 40 CFR 60.13(c), that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for

a period of time during which EPA Method 9 data indicates noncompliance, the EPA Method 9 data will be used to determine opacity compliance.

[40 CFR 60.11(e)(5)]

**A.59.** Special provisions set forth under an applicable subpart shall supersede any conflicting provisions in 40 CFR 60.11(a) through (e).

[40 CFR 60.11(f)]

**A.60.** For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in 40 CFR 60, nothing in 40 CFR 60 shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[40 CFR 60.11(g)]

**A.61.** Compliance with emission limitations specified in lb/mmBtu in specific condition **A.16.** shall be determined by calculating an "F" factor in dscf/mmBtu, corrected to 12% CO<sub>2</sub>, using the boiler's efficiency (as determined by the calorimeter method contained in Appendix EFF during acceptance testing) and the measured steam production. Data obtained from test methods, required in specific condition **A.44.** for compliance testing, shall be used for the calculation of the "F" factor required by this condition.

[PSD-FL-112]

**A.62. Not federally enforceable.** Combustion efficiency calculated by: % CE =  $\{1/[1+(CO/CO_2)]\} \times 100$  shall be at least 99.8% for an 8 hour average.

[PA 86-22]

**A.63.** The owner or operator shall determine compliance with the particulate matter standard in 40 CFR 60.52 (see specific condition **A.24.**) as follows:

(1) The emission rate ( $c_{12}$ ) of particulate matter, corrected to 12 percent CO<sub>2</sub>, shall be computed for each run using the following equation:

$$c_{12} = c_s (12/\%CO_2)$$

where:

$c_{12}$ =concentration of particulate matter, corrected to 12 percent CO<sub>2</sub>, g/dscm (gr/dscf).

$c_s$ =concentration of particulate matter, g/dscm (gr/dscf).

%CO<sub>2</sub>=CO<sub>2</sub> concentration, percent dry basis.

(2) Method 5 shall be used to determine the particulate matter concentration ( $c_s$ ). The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf).

(3) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B shall be used to determine CO<sub>2</sub> concentration (%CO<sub>2</sub>).

(i) The CO<sub>2</sub> sample shall be obtained simultaneously with, and at the same traverse points as, the particulate run. If the particulate run has more than 12 traverse points, the CO<sub>2</sub> traverse points may be reduced to 12 if Method 1 is used to locate the 12 CO<sub>2</sub> traverse points. If individual CO<sub>2</sub> samples are taken at each traverse point, the CO<sub>2</sub> concentration (%CO<sub>2</sub>) used in the correction equation shall be the arithmetic mean of all the individual CO<sub>2</sub> sample concentrations at each traverse point.

[40 CFR 60.54(b)]

**A.64.** (a) Unless a waiver of emission testing is obtained under 40 CFR 61.13, each owner or operator required to comply with 40 CFR 61.32(a) shall test emissions from the source according to Method 104 of Appendix B to 40 CFR 61. Method 103 of Appendix B to 40 CFR 61 is approved by the Administrator as an alternative method for sources subject to 40 CFR 61.32(a). The emission test shall be performed-

- (1) Within 90 days of the effective date in the case of an existing source or a new source which has an initial startup date preceding the effective date; or
- (2) Within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(b) The Administrator shall be notified at least 30 days prior to an emission test so that he may at his option observe the test.

(c) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in any 24-hour period. Where emissions depend upon the relative frequency of operation of different types of processes, operating hours, operating capacities, or other factors, the calculation of maximum 24-hour-period emissions will be based on that combination of factors which is likely to occur during the subject period and which result in the maximum emissions. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until a new emission level has been estimated by calculation and the results reported to the Administrator.

(d) All samples shall be analyzed and beryllium emissions shall be determined within 30 days after the source test. All determinations shall be reported to the Administrator by a registered letter dispatched before the close of the next business day following such determination.

(e) Records of emission test results and other data needed to determine total emissions shall be retained at the source and made available, for inspection by the Administrator, for a minimum of **5 years**.

[40 CFR 61.33; and, Rule 62-213.440(b), F.A.C.]

**A.65.** Calculations Correcting Concentrations to 50% Excess Air (EA), EPA Method 3, Section 1.2. When correcting a pollutant emission concentration to 50% excess air, pursuant to Rule 62-296.401, F.A.C., the following equation shall be used:

$$Cs_{50} = \frac{Cs (100 + \%EA)}{150}$$

Equation 296.401-1

where:  $Cs_{50}$  is the pollutant concentration at 50% excess air;  
 $Cs$  is the pollutant concentration computed at standard conditions on a dry basis; and  
 $\%EA$  is calculated by equation 296.401-2:

$$\%EA = \frac{(\%O_2 - 0.5\%CO) \times 100}{0.264\%N_2 - (\%O_2 - 0.5\%CO)}$$

Equation 296.401-2

[Rule 62-296.401(2)(d), F.A.C.]

## **Compliance Test Requirements**

**A.66. Required Number of Test Runs.** For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.

[Rule 62-297.310(1), F.A.C.]

**A.67. Operating Rate During Testing.** Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

[Rules 62-297.310(2) & (2)(b), F.A.C.]

**A.68. Calculation of Emission Rate.** The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule.

[Rule 62-297.310(3), F.A.C.]

### **A.69. Applicable Test Procedures.**

#### **(a) Required Sampling Time.**

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.

b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test

Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.

c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet. (See specific condition A.47.)

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached to this permit.

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

**A.70. Required Stack Sampling Facilities**. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.

[Rule 62-297.310(6), F.A.C.]

**A.71.** Mercury emissions testing shall be conducted semiannually. Mercury stack tests shall be performed downstream of control devices or upstream and downstream of the control devices when determining compliance with the alternative removal requirement.

[PSD-FL-112(B)]

**A.72. Frequency of Compliance Tests**. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

a. Did not operate; or

b. In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

a. Visible emissions, if there is an applicable standard;

b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and

c. Each NESHAP pollutant, if there is an applicable emission standard.

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.

9. The owner or operator shall notify the DEP Southeast District Office, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the DEP Southeast District Office, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the DEP Southeast District Office.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.; and SIP approved]

## **Reporting and Recordkeeping**

**A.73.** In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the DEP Southeast District Office in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the DEP Southeast District Office.

[Rule 62-210.700(6), F.A.C.]

### **A.74. Test Reports.**

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the DEP Southeast District Office on the results of each such test.

(b) The required test report shall be filed with the DEP Southeast District Office as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the DEP Southeast District Office to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.

6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rules 62-213.440 and 62-297.310(8), F.A.C.]

**A.75. Excess Emissions Report.** An excess emissions report shall be submitted to EPA for every calendar quarter. The report shall include the following:

- (1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h) (see specific condition **A.43.**), any conversion factors used, and the date and time of commencement and completion of each period of excess emissions (40 CFR 60.7(c)(1)).
- (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the furnace/boiler system. The nature and cause of any malfunction (if known) and the corrective action taken or preventative measures adopted shall also be reported (40 CFR 60.7(c)(2)).
- (3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of the system repairs or adjustments (40 CFR 60.7(c)(3)).
- (4) When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be stated in the report (40 CFR 60.7(c)(4)).
- (5) Permittee shall maintain a file of all measurements, including continuous monitoring systems performance evaluations; all continuous monitoring systems or monitoring device calibration checks;

adjustments and maintenance performed on these systems or devices; and all other information required by this permit recorded in a permanent form suitable for inspection (40 CFR 60.7(d)).

(6) Excess emissions shall be defined as any applicable period during which the average emissions of CO, NO<sub>x</sub>, and/or SO<sub>2</sub>, as measured by the continuous monitoring system, exceeds the CO, NO<sub>x</sub>, and/or SO<sub>2</sub> maximum emission limit (in ppm) set for each pollutant in specific condition A.16. above.

[PSD-FL-112]

**A.76.** Continuous emissions monitoring data shall be reported to the DEP Southeast District Office and EPA Region 4 on a quarterly basis in accordance with Rule 62-204.800(8), F.A.C. and 40 CFR 60.7 (see specific condition A.75.).

[PSD-FL-112(B)]

**A.77.** Any owner or operator subject to the provisions of 40 CFR 60 shall furnish the Administrator written notification as follows:

(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

[40 CFR 60.7(a)(4)]

**A.78.** Any owner or operator subject to the provisions of 40 CFR 60 shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or, any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 CFR 60.7(b)]

**A.79.** The summary report form shall contain the information and be in the format shown in Figure 1 (attached) unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator.

(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.

*{See attached Figure 1: Summary Report-Gaseous and Opacity Excess Emission and Monitoring System Performance}*

[40 CFR 60.7(d)(1) and (2)]

**A.80.** (1) Notwithstanding the frequency of reporting requirements specified in 40 CFR 60.7(c), an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:



- (i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;
- (ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in 40 CFR 60, Subpart A, and the applicable standard; and
- (iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in 40 CFR 60.7(e)(2).

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in 40 CFR 60.7(e)(1) and (e)(2).

[40 CFR 60.7(e)(1),(2), and (3)]

**A.81.** Any owner or operator subject to the provisions of 40 CFR 60 shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and, all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least **5 (five)** years following the date of such measurements, maintenance, reports, and records.

[40 CFR 60.7(f); Rule 62-213.440(1)(b)2.b., F.A.C.]

**A.82.** Monthly records shall be maintained of the amount of natural gas and distillate fuel oil used by the auxiliary burners of each MSW unit, the equivalent heat input from natural gas and distillate fuel oil (calculated using the heat value for natural gas/fuel oil provided by the natural gas/fuel oil supplier), and the distillate fuel oil sulfur content (provided by fuel oil supplier). On an annual basis (no later than 30 days after the end of the calendar year), a demonstration must be performed based on the monthly records showing that the capacity factor for natural gas and distillate fuel oil for each unit was 10% or less.

[Rule 62-213.440, F.A.C.]

**A.83.** The owner or operator of any incinerator subject to the provisions of 40 CFR 60, Subpart E shall record the daily charging rates and hours of operation.

[40 CFR 60.53(a)]

**A.84. Charging Rate Monitoring.** The daily solid waste charging rate and hours of operation shall be determined and recorded for each MWC unit. The daily charging rate shall be determined each month on an average daily basis for each MWC unit using the Facility's truck scale weight data, refuse pit inventory and MWC operating data for the preceding calendar month. Monthly truck scale weight records on the weight of solid waste received and processed at the Facility and refuse pit inventory shall be used to determine the amount of solid waste charged during the preceding calendar month on an average daily basis. The MWC load level measurements or other operating data shall be used to determine the number of operating hours per MWC unit for each day during the preceding calendar month.  
 [40 CFR 60.53(a); and, PSD-FL-112(B)]

**A.85. Segregated Solid Waste Record Keeping.** The following records shall be made and kept to demonstrate compliance with the segregated non-MSW percentage limitations of specific condition **A.14.**

(1) Each segregated load of non-MSW materials, that is subject to the percentage weight limitation of specific condition **A.14.**, which is received for processing shall be documented as to waste description and weight. The weight of all waste materials received for processing shall be measured using the facility truck scale and recorded.

(2) Each day the total weight of segregated tires received shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30 day total weight of tires shall be divided by the total weight of all waste materials received in the same 30 day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 3% limitation.

(3) Each day the total weight of segregated non-MSW materials received that are subject to the 5% restriction shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30 day total weight of segregated non-MSW materials shall be divided by the total weight of all waste materials received in the same 30 day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 5% limitation.  
 [PSD-FL-112(B)]

**Miscellaneous**

**A.86. Compliance Schedule.** The following dates shall be/have been met to satisfy measurable progress milestones to come into compliance with 40 CFR 60 Subpart Cb:

<b>E.U. ID No.</b>	<b>Milestone</b>	<b>Milestone Date</b>
1, 2, 3	Submittal of a final control plan to DEP	January 13, 1998
1, 2, 3	Awarding of contracts for emission control systems or process modifications, or issuance of orders for the purchase of component parts to accomplish emission control or process modification	July 13, 1998
1, 2, 3	Initiation of on-site construction or installation of emission control equipment or process change	November 13, 1999
1, 2, 3	Completion of on-site construction or installation of emission control equipment or process change	September 13, 2000
1, 2, 3	Final Compliance	November 13, 2000

[40 CFR 60.21(h); 40 CFR 60.39b; and, State Plan approved 11/13/97]

**A.87. Closure Agreement.** The permittee shall cease operation of any unit that has not completed on-site construction or installation of emission control equipment and is not involved in performance testing by November 13, 2000.

[40 CFR 60.39b]

**A.88.** Initial compliance tests for each combustion unit shall be conducted within 60 days after achieving maximum boiler operating capacity, but not later than 180 days after startup of the Selective Non-Catalytic Reduction (SNCR) system. Compliance tests shall be performed according to 40 CFR 60.38b (see "Test Methods and Procedures" in Subsection B). Annual tests shall be conducted within one year after the initial tests, unless otherwise allowed by the Department. A test protocol shall be submitted for approval to the Department's Southeast District office (DEPSED) and the Broward County Department of Planning and Environmental Protection (BCDPEP) at least 45 days prior to initial testing.

[PSD-FL-112(B)]

**A.89. Acid Rain Part Application.** For any unit which was a solid waste incinerator, burning less than 20 percent fossil fuel as described in 40 CFR 72.6(b)(7), adopted and incorporated by reference at Rule 62-204.800, F.A.C. the designated representative of the source containing the unit shall submit a complete Acid Rain Part application governing such unit to the Department before the later of January 1, 1998, or March 1 of the year following the three calendar year period in which the incinerator consumed 20 percent or more fossil fuel on a British thermal unit (BTU) basis.

[Rule 62-214.320(1)(h), F.A.C.]

**Subsection B. This section addresses the following emissions units.**

E.U. ID No.	Brief Description
-001	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 1
-002	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 2
-003	807 TPD (maximum) Municipal Waste Combustor & Auxiliary Burners - Unit 3

{Note: Each of the three municipal waste combustors (MWCs) has a *nominal* design rate capacity of 747 tons MSW per day and 280 MMBtu per hour heat input (with MSW having a heating value of 4,500 Btu per pound). A maximum (short-term) capacity of 807 tons of waste per day and 302.5 mmBtu per hour heat input (108% rated capacity) is allowed. Short-term capacity is limited by limiting steam production, which effectively limits heat input. The maximum steam production rate is 186,000 lbs/hr, with a net steam energy of 5.600 Btu/lb of steam (the net steam energy may be calculated as the difference in enthalpy between the steam at the superheater outlet and the feedwater at the inlet).

Emissions units numbers -001, -002 and -003 are Babcock and Wilcox manufactured municipal solid waste (MSW) combustors designated as “Unit 1”, “Unit 2” and “Unit 3”, respectively. Each unit consists of an integrated mass-burn furnace and multi-pass waterwall type boiler with a rated (nominal) capacity of 747 tons MSW per day (TPD) and 280 million British thermal units per hour (MMBtu/hr) heat input when burning solid waste with a heat content of 4,500 British thermal units per pound (Btu/lb). Therefore, the facility has a nameplate (nominal) waste processing rate of 2,241 TPD (4,500 Btu/lb). Two auxiliary distillate fuel oil or natural gas fired burners are associated with each MSW combustor. The burners are used to fire the MSW combustors during start-up, shutdown, and at other times when necessary and consistent with good combustion practices. The maximum permitted steam production rate of each unit is 186,000 lbs/hr when firing municipal solid waste. Steam flow is the main process throughput parameter to be monitored for these units.

Units 1, 2 and 3 began commercial operation April 1992. Particulate matter, some metals (Pb, Hg, Be), SO<sub>2</sub> and acid gas emissions from Units 1, 2 and 3 are controlled by separate baghouses and spray dry absorbers, while CO and NO<sub>x</sub> emissions are controlled by good combustion controls. Mercury emissions are reduced by pre-combustion waste separation. Odor is controlled by drawing combustion air from the refuse tipping area. Units 1, 2 and 3 share a common stack and turbine containing one flue for each unit. Stack height = 195 feet, exit diameter = 7.5 feet, exit temperature < 300°F, actual volumetric flow rate = 169,000 acfm.

All three units are being retrofitted with Selective Non-Catalytic Reduction (SNCR) NO<sub>x</sub> controls to comply with NSPS – 40 CFR 60, Subpart Cb requirements. The new limits imposed in Subpart Cb are more stringent than PSD-FL-112 limits for SO<sub>2</sub>, PM, VE, NO<sub>x</sub> and Pb emissions from each unit. Pollutants regulated by Subpart Cb that were not regulated in PSD-FL-112 for all three units are Cd, HCl, Hg and dioxins/furans. Pollutants regulated in PSD-FL-112 that are not regulated by Subpart Cb are Be and Fl.

{Permitting notes. These emissions units are regulated under NSPS - 40 CFR 60, Subpart Cb, Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors That Are Constructed on or Before September 20, 1994, adopted and incorporated by reference, subject to provisions, in Rule 62-204.800(8)(b), F.A.C.; NSPS - 40 CFR 60, Subpart E, Standards of Performance for Incinerators, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C.; NESHAP - 40 CFR 61, Subpart C, NESHAP for Beryllium, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C.; Rule 62-212.400(5), F.A.C., Prevention of Significant Deterioration (PSD) (PSD-FL-112(B)); Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT); Rule 62-296.401(2), F.A.C., Incinerators; Rule 62-296.416, F.A.C., Waste-to-Energy Facilities; and, PA 86-22(B). Also, please note that conditions in 40 CFR 60, Subpart Cb, are contained in 40 CFR 60, Subpart Eb.}

**The following specific conditions apply to the emissions unit(s) listed above:**

{Permitting note: The following specific conditions will apply to Units 1, 2 and 3 following completion of retrofit with new air pollution controls and compliance testing in accordance with the approved compliance schedule (see specific condition **A.86.**)}

**General**

**B.1.** The Standards of Performance for New Stationary Sources adopted by reference in Rule 62-204.800(7), F.A.C., the Emission Guidelines for Existing Sources adopted by reference in Rule 62-204.800(8), F.A.C., and the National Emissions Standards for Hazardous Air Pollutants adopted by reference in Rule 62-204.800(9), F.A.C. shall be controlling over other standards in the air pollution rules of the Department, except that any emissions limiting standard contained in or determined pursuant to the air pollution rules of the Department which is more stringent than one contained in a Standard of Performance, an Emission Guideline, or a National Emission Standard, or which regulates emissions of pollutants or emissions units not regulated by an applicable Standard of Performance, Emission Guideline, or National Emission Standard, shall apply.  
[Rules 62-204.800(7)(c), (8)(a)1., and (9)(c), F.A.C.]

**B.2. Definitions.** For the purposes of Rules 62-204.800(7), (8) and (9), F.A.C., the definitions contained in the various provisions of 40 CFR Parts 60 and 61, adopted herein shall apply except that the term "Administrator" when used in 40 CFR Parts 60 and 61, shall mean the Secretary or the Secretary's designee except as noted in 40 CFR 61.157.  
[40 CFR 60.2; and, Rules 62-204.800(7)(a), (8)(a)2., and (9)(a), F.A.C.]

**B.3. Definitions – Subpart Cb.** For purposes of Rule 62-204.800(8)(b), F.A.C., the definitions in 40 CFR 60.51b shall apply except for the term “municipal waste combustor plant” which shall have the same meaning as defined in 40 CFR 60.31b.  
[Rule 62-204.800(8)(b)2., F.A.C.]

**B.4. Circumvention.** No owner or operator subject to the provisions of 40 CFR 60 shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.  
[40 CFR 60.12]

**B.5. Notification and Reporting Requirements.** For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be postmarked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be delivered or postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the postmark provided by the U.S. Postal Service, or alternative means of delivery, including the use of electronic media, agreed to by the permitting authority, is acceptable.

[40 CFR 60.19(b)]

**B.6.** Each incinerator boiler shall have a metal name plate affixed in a conspicuous place on the shell showing manufacturer, model number, type waste, rated capacity and certification number.

[PSD-FL-112]

**B.7. Air Pollution Control Equipment.** The permittee shall have installed, shall continuously operate, and shall maintain the following air pollution controls to minimize emissions. Controls listed shall be fully operational upon startup of the equipment.

- a. Each boiler is equipped with a particulate emission control device for the control of particulates.
- b. Each boiler is equipped with an acid gas control device designed to remove at least 90% of the acid gases.
- c. Each boiler shall be equipped with a selective non-catalytic reduction system to control nitrogen oxides emissions.
- d. Mercury is controlled by source separation techniques pursuant to Rule 62-296.416, F.A.C.

[PSD-FL-112(B)]

**B.8. Not federally enforceable.** The temperature of the flue gases exiting the acid gas control equipment shall not exceed 300 degrees F.

[PA 86-22]

**B.9. Not federally enforceable.** The temperature of the flue gas exiting the combustion chamber of the incinerator shall be equal to or greater than 1,800 degrees F.

[PA 86-22]

**B.10. Not federally enforceable.** Combustion efficiency calculated by:  $\% CE = \{1/[1+(CO/CO_2)]\} \times 100$  shall be at least 99.8% for an 8 hour average.

[PA 86-22]

**B.11.** These units are subject to all applicable requirements of 40 CFR 60 Subpart Cb, Emissions Control Guidelines and Compliance Schedules for Municipal Solid Waste Combustors; Subpart E, NSPS for Incinerators; 40 CFR 61 Subpart C, NESHAP for Beryllium; and, Rule 62-296.416 F.A.C., Waste-to-Energy Facilities, except that where requirements in this permit are more restrictive, the requirements in this permit shall apply.

[PSD-FL-112(B)]

### **Essential Potential to Emit (PTE) Parameters**

**B.12. Capacity.**

(a) Each municipal waste combustor (MWC) unit shall have a maximum capacity of 186,000 pounds of steam produced per hour based on a 4-hour block averaged measurement. The maximum individual MWC throughput shall not exceed 807 tons MSW per day (2,420 tons per day entire facility) and 302.5 MMBtu/hr (108% rated capacity), as determined monthly (see specific condition **B.116.**).

(b) The procedures specified in paragraphs (1) and (2) shall be used for calculating municipal waste combustor unit capacity as defined under 40 CFR 60.51b.

(1) For municipal waste combustor units capable of combusting municipal solid waste continuously for a 24-hour period, municipal waste combustor unit capacity shall be calculated based on 24 hours of operation at the maximum charging rate. The maximum charging rate shall be determined as specified in paragraphs (i) and (ii) as applicable.

(i) For combustors that are designed based on heat capacity, the maximum charging rate shall be calculated based on the maximum design heat input capacity of the unit and a heating value of 12,800 kilojoules per kilogram for combustors firing refuse-derived fuel and a heating value of 10,500 kilojoules per kilogram for combustors firing municipal solid waste that is not refuse-derived fuel.

(ii) For combustors that are not designed based on heat capacity, the maximum charging rate shall be the maximum design charging rate.

(2) For batch feed municipal waste combustor units, municipal waste combustor unit capacity shall be calculated as the maximum design amount of municipal solid waste that can be charged per batch multiplied by the maximum number of batches that could be processed in a 24-hour period. The maximum number of batches that could be processed in a 24-hour period is calculated as 24 hours divided by the design number of hours required to process one batch of municipal solid waste, and may include fractional batches (e.g., if one batch requires 16 hours, then 24/16, or 1.5 batches, could be combusted in a 24-hour period). For batch combustors that are designed based on heat capacity, the design heating value of 12,800 kilojoules per kilogram for combustors firing refuse-derived fuel and a heating value of 10,500 kilojoules per kilogram for combustors firing municipal solid waste that is not refuse-derived fuel shall be used in calculating the municipal waste combustor unit capacity.

[40 CFR 60.31b and 40 CFR 60.58b(j); Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and, PSD-FL-112(B)]

{Permitting note: Nothing in the following two conditions shall be construed to imply that maximum capacity, as defined in specific condition **B.12.**, can be exceeded.}

**B.13. Emissions Unit Operating Rate Limitation After Testing.** See specific condition **B.76.**

[Rule 62-297.310(2), F.A.C.]

**B.14. Unit Load.** Unit load means the steam load of the municipal waste combustor (MWC) measured as specified in 40 CFR 60.58b(i)(6). Each MWC unit shall not operate at a load level greater than 110 percent of the unit's "maximum demonstrated unit load." The maximum demonstrated unit load is the highest 4-hour arithmetic averaged MWC unit load achieved during four consecutive hours during the most recent dioxin/furan performance stack test in which compliance with the dioxin/furan emission limit (see specific condition **B.35.**) was achieved. Higher loads are allowed for testing purposes as specified at 40 CFR 60.53b(b).

[40 CFR 60.34b(b) and 40 CFR 60.51b; and, PSD-FL-112(B)]

**B.15. Maximum Demonstrated Particulate Matter Control Device Temperature.** Maximum demonstrated particulate matter control device temperature means the highest 4-hour arithmetic average flue gas temperature measured at the particulate matter control device inlet during four consecutive hours during the most recent dioxin/furan performance test demonstrating compliance with the applicable limit for municipal waste combustor organics specified in specific condition **B.35.**

[40 CFR 60.34b(b) and 40 CFR 60.51b]

**B.16. Methods of Operation - Fuels.**

a. **Municipal Solid Waste Combustors.**

(1) **Municipal Solid Waste.** The primary fuel for this facility is municipal solid waste (MSW), including the items and materials that fit within the definition of MSW contained in either 40 CFR 60.51b or Section 403.706(5), F.S.

(2) Unauthorized Fuel. Subject to the limitations contained in this permit, the authorized fuels for the facility also include the other solid wastes that are not MSW which are described in (4), (5) and (6), below. However, the facility shall not burn:

- (a) those materials that are prohibited by state or federal law;
- (b) those materials that are prohibited by this permit;
- (c) those materials that are not authorized by this permit;
- (d) lead acid batteries;
- (e) hazardous waste;
- (f) nuclear waste;
- (g) radioactive waste;
- (h) sewage sludge;
- (i) explosives; and
- (j) asbestos containing materials.

(3) The fuel may be received either as a mixture or as a single-item stream (segregated load) of discarded materials. If the facility intends to use an authorized fuel that is segregated non-MSW material, the fuel shall be either:

- (a) well mixed with MSW in the refuse pit; or
- (b) alternately charged with MSW in the hopper.

The facility owner/operator shall prepare and maintain records concerning the description and quantities of all segregated loads of non-MSW material which are received and used as fuel at the facility, and subject to a percentage weight limitation, below [(5) and (6)]. For the purposes of this permit, a segregated load is defined to mean a container or truck that is almost completely or exclusively filled with a single item or homogeneous composition of waste material, as determined by visual inspection.

(4) Other Solid Waste. Subject to the conditions and limitations contained in this permit, the following other solid waste may be used as fuel at the facility:

- (a) Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons, credit cards, magnetic tape and microfilm);
- (b) Contraband which is being destroyed at the request of appropriately authorized local, state or federal governmental agencies, provided that such material is not an explosive, a propellant, a hazardous waste, or otherwise prohibited at the facility. For the purposes of this section, contraband includes but is not limited to drugs, narcotics, fruits, vegetables, plants, counterfeit money, and counterfeit consumer goods;
- (c) Wood pallets, clean wood and land clearing debris;
- (d) Packaging materials and containers;
- (e) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves; and
- (f) Rugs, carpets, and floor coverings.

(5) Waste Tires. Subject to the conditions and limitations contained in this permit, waste tires may be used as fuel at the facility. The total quantity of waste tires received as segregated loads and burned at the facility shall not exceed 3%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average in accordance with specific condition **B.117.**, below.

(6) Other Solid Waste/Segregated Loads. Subject to the conditions and limitations contained in this permit, the following other solid waste materials may be used as fuel at the facility (i.e. the following are authorized fuels that are non-MSW material). The total quantity of the following non-MSW material received as segregated loads and burned at the facility shall not exceed 5%, by weight, of the facility's



total fuel. Compliance with this limitation shall be determined by using a rolling 30 day average in accordance with specific condition **B.117.**, below.

- (a) Construction and demolition debris.
  - (b) Oil spill debris from aquatic, coastal, estuarine or river environments. Such items or materials include but are not limited to rags, wipes, and absorbents.
  - (c) Items suitable for human, plant or domesticated animal use, consumption or application where the item's shelf-life has expired or the generator wishes to remove the items from the market. Such items or materials include but are not limited to off-specification or expired consumer products, pharmaceuticals, medications, health and personal care products, cosmetics, foodstuffs, nutritional supplements, returned goods, and controlled substances.
  - (d) Consumer-packaged products intended for human or domesticated animal use or application but not consumption. Such items or materials include but are not limited to carpet cleaners, household or bathroom cleaners, polishes, waxes and detergents.
  - (e) Waste materials that:
    - (i) are generated in the manufacture of items in categories (c) or (d), above and are functionally or commercially useless (expired, rejected or spent); or
    - (ii) are not yet formed or packaged for commercial distribution. Such items or materials must be substantially similar to other items or materials routinely found in MSW.
  - (f) Waste materials that contain oil from:
    - (i) the routine cleanup of industrial or commercial establishments and machinery; or
    - (ii) spills of virgin or used petroleum products. Such items or materials include but are not limited to rags, wipes, and absorbents.
  - (g) Used oil and used oil filters. Used oil containing a PCB concentration equal or greater than 50 ppm shall not be burned, pursuant to the limitations of 40 CFR 761.20(e).
  - (h) Waste materials generated by manufacturing, industrial or agricultural activities, provided that these items or materials are substantially similar to items or materials that are found routinely in MSW, subject to prior approval of the Department.
- b. Auxiliary Burners. Only distillate fuel oil or natural gas shall be used in the startup burners. Natural gas may be used as fuel during warm-up, startup, shutdown, and malfunction periods, and at other times when necessary and consistent with good combustion practices. The distillate fuel oil and natural gas shall not be used more than required during boiler startup or shutdown. The annual capacity factor for use of natural gas and oil shall be less than 10%. The annual capacity factor for natural gas/distillate fuel oil is the ratio between the heat input to the unit from natural gas/distillate fuel oil during a calendar year and the potential heat input to the unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity.
- c. Other fuels or wastes shall not be burned in the MSW combustors without prior specific written approval of the Secretary of the Department of Environmental Protection.  
[Rules 62-4.160(2), 62-210.200, and 62-213.440(1), F.A.C.; PSD-FL-112(B); and, PA 86-22]

**B.17.** To ensure that the facility's fuel does not adversely affect the facility's combustion process or emissions, the facility operator shall:

- (1) comply with good combustion operating practices in accordance with 40 CFR 60.53b;
- (2) install, operate and maintain continuous emissions monitors (CEMS) for oxygen, carbon monoxide, sulfur dioxide, oxides of nitrogen and particulate control device inlet temperature in accordance with 40 CFR 60.58b; and
- (3) record and maintain the CEMS data in accordance with 40 CFR 60.59b.

These steps shall be used to ensure and verify continuous compliance with the emissions limitations in this permit.

[PSD-FL-112 (B)]

**B.18. Hours of Operation.** MWC units 1, 2 and 3 are allowed to operate continuously, i.e., 8,760 hours/year, each.

[Rule 62-210.200(PTE), F.A.C.]

## **Operating Practices and Requirements**

**B.19.** No owner or operator of an affected facility shall cause such facility to operate at a load level greater than 110 percent of the maximum demonstrated municipal waste combustor unit load as defined in specific condition **B.14.**, except as specified below. The averaging time is specified in specific condition **B.21.**

(1) During the annual dioxin/furan performance test and the two weeks preceding the annual dioxin/furan performance test, no municipal waste combustor unit load limit is applicable.

(2) The municipal waste combustor unit load limit may be waived in accordance with permission granted by the Administrator or delegated State regulatory authority for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions.

[40 CFR 60.34b(b) and 40 CFR 60.53b(b)]

**B.20.** No owner or operator of an affected facility shall cause such facility to operate at a temperature, measured at the particulate matter control device inlet, exceeding 17°C above the maximum demonstrated particulate matter control device temperature as defined in specific condition **B.15.**, except as specified below. The averaging time is specified in specific condition **B.21.** These requirements apply to each particulate matter control device utilized at the affected facility.

(1) During the annual dioxin/furan performance test and the two weeks preceding the annual dioxin/furan performance test, no particulate matter control device temperature limitations are applicable.

(2) The particulate matter control device temperature limits may be waived in accordance with permission granted by the Administrator or delegated State regulatory authority for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions.

[40 CFR 60.34b(b) and 40 CFR 60.53b(c)]

**B.21. Operating Requirements.** The procedures specified in paragraphs (1) through (12) shall be used for determining compliance with the operating requirements under 40 CFR 60.53b.

(1) Compliance with the carbon monoxide emission limits in 40 CFR 60.53b(a) shall be determined using a 4-hour block arithmetic average for all types of affected facilities except mass burn rotary waterwall municipal waste combustors and refuse-derived fuel stokers.

(2) For affected mass burn rotary waterwall municipal waste combustors and refuse-derived fuel stokers, compliance with the carbon monoxide emission limits in 40 CFR 60.53b(a) shall be determined using a 24-hour daily arithmetic average.

(3) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring carbon monoxide at the combustor outlet and record the output of the system and shall follow the procedures and methods specified in paragraphs(i) through(iii).

(i) The continuous emission monitoring system shall be operated according to Performance Specification 4A in Appendix B of 40 CFR 60.

(ii) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 4A in Appendix B of 40 CFR 60, carbon monoxide and oxygen (or carbon

dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (A) and (B).

(A) For carbon monoxide, EPA Reference Method 10, 10A, or 10B shall be used.

(B) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A or 3B, as applicable shall be used.

(iii) The span value of the continuous emission monitoring system shall be 125 percent of the maximum estimated hourly potential carbon monoxide emissions of the municipal waste combustor unit.

(4) The 4-hour block and 24-hour daily arithmetic averages specified in paragraphs (1) and (2) shall be calculated from 1-hour arithmetic averages expressed in parts per million by volume corrected to 7 percent oxygen (dry basis). The 1-hour arithmetic averages shall be calculated using the data points generated by the continuous emission monitoring system. At least two data points shall be used to calculate each 1-hour arithmetic average.

(5) The owner or operator of an affected facility may request that compliance with the carbon monoxide emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in 40 CFR 60.58b(b)(6).

(6) The procedures specified in paragraphs (i) through (v) shall be used to determine compliance with load level requirements under 40 CFR 60.53b(b).

(i) The owner or operator of an affected facility with steam generation capability shall install, calibrate, maintain, and operate a steam flow meter or a feedwater flow meter; measure steam (or feedwater) flow in kilograms per hour (or pounds per hour) on a continuous basis; and record the output of the monitor. Steam (or feedwater) flow shall be calculated in 4-hour block arithmetic averages.

(ii) The method included in the "American Society of Mechanical Engineers Power Test Codes: Test Code for Steam Generating Units, Power Test Code 4.1-1964 (R1991)" section 4 (incorporated by reference, see 40 CFR 60.17) shall be used for calculating the steam (or feedwater) flow required under paragraph (6)(i). The recommendations in "American Society of Mechanical Engineers Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters, 6th edition (1971)," chapter 4 (incorporated by reference-see 40 CFR 60.17) shall be followed for design, construction, installation, calibration, and use of nozzles and orifices except as specified in (iii).

(iii) Measurement devices such as flow nozzles and orifices are not required to be recalibrated after they are installed.

(iv) All signal conversion elements associated with steam (or feedwater flow) measurements must be calibrated according to the manufacturer's instructions before each dioxin/furan performance test, and at least once per year.

(7) To determine compliance with the maximum particulate matter control device temperature requirements under 40 CFR 60.53b(c), the owner or operator of an affected facility shall install, calibrate, maintain, and operate a device for measuring on a continuous basis the temperature of the flue gas stream at the inlet to each particulate matter control device utilized by the affected facility. Temperature shall be calculated in 4-hour block arithmetic averages.

(8) The maximum demonstrated municipal waste combustor unit load shall be determined during the initial performance test for dioxins/furans and each subsequent performance test during which compliance with the dioxin/furan emission limit specified in 40 CFR 60.52b(c) is achieved. The maximum demonstrated municipal waste combustor unit load shall be the highest 4-hour arithmetic average load achieved during four consecutive hours during the most recent test during which compliance with the dioxin/furan emission limit was achieved.

(9) For each particulate matter control device employed at the affected facility, the maximum demonstrated particulate matter control device temperature shall be determined during the initial

performance test for dioxins/furans and each subsequent performance test during which compliance with the dioxin/furan emission limit specified in 40 CFR 60.52b(c) is achieved. The maximum demonstrated particulate matter control device temperature shall be the highest 4-hour arithmetic average temperature achieved at the particulate matter control device inlet during four consecutive hours during the most recent test during which compliance with the dioxin/furan limit was achieved.

(10) At a minimum, valid continuous emission monitoring system hourly averages shall be obtained as specified in paragraphs (i) and (ii) for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) At a minimum, each carbon monoxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.

(11) All valid continuous emission monitoring system data must be used in calculating the parameters specified under 40 CFR 60.58b(i) even if the minimum data requirements of paragraph (10) are not met. When carbon monoxide continuous emission data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained using other monitoring systems as approved by the Administrator or EPA Reference Method 10 to provide, as necessary, the minimum valid emission data.

(12) Quarterly accuracy determinations and daily calibration drift tests for the carbon monoxide continuous emission monitoring system shall be performed in accordance with procedure 1 in Appendix F of 40 CFR 60.

[40 CFR 60.38b and 40 CFR 60.58b(i)]

## **Operator Training and Certification**

**B.22.** Standards for municipal waste combustor operator training and certification.

(a) No later than the date 6 months after the date of startup of an affected facility or 12 months after State plan approval [40 CFR 60.39b(c)(4)(ii)], whichever is later, each chief facility operator and shift supervisor shall obtain and maintain a current provisional operator certification from either the American Society of Mechanical Engineers [QRO-1-1994 (incorporated by reference - see 40 CFR 60.17 of Subpart A)] or a State certification program.

(b) No later than the date 6 months after the date of startup of an affected facility or 12 months after State plan approval [40 CFR 60.39b(c)(4)(ii)], whichever is later, each chief facility operator and shift supervisor shall have completed full certification or shall have scheduled a full certification exam with either the American Society of Mechanical Engineers [QRO-1-1994 (incorporated by reference - see 40 CFR 60.17 of Subpart A)] or a State certification program.

(c) No owner or operator of an affected facility shall allow the facility to be operated at any time unless one of the following persons is on duty and at the affected facility: A fully certified chief facility operator, a provisionally certified chief facility operator who is scheduled to take the full certification exam according to the schedule specified in paragraph (b), a fully certified shift supervisor, a provisionally certified shift supervisor who is scheduled to take the full certification exam according to the schedule specified in paragraph (b).

(1) The requirement specified in paragraph (c) shall take effect 6 month after the date of startup of the affected facility or 12 months after State plan approval [40 CFR 60.39b(c)(4)(ii)], whichever is later.

(2) If one of the persons listed in paragraph (c) must leave the affected facility during their operating shift, a provisionally certified control room operator who is onsite at the affected facility may fulfill the requirement in paragraph (c).

(d) All chief facility operators, shift supervisors, and control room operators at affected facilities must complete the EPA or State municipal waste combustor operator training course no later than the date 6 months after the date of startup of the affected facility, or by 12 months after State plan approval [40 CFR 60.39b(c)(4)(iii)], whichever is later.

(e) The owner or operator of an affected facility shall develop and update on a yearly basis a site-specific operating manual that shall, at a minimum, address the elements of municipal waste combustor unit operation specified in paragraph (e)(1) through (e)(11).

- (1) A summary of the applicable standards;
- (2) A description of basic combustion theory applicable to a municipal waste combustor unit;
- (3) Procedures for receiving, handling, and feeding municipal solid waste;
- (4) Municipal waste combustor unit startup, shutdown, and malfunction procedures;
- (5) Procedures for maintaining proper combustion air supply levels;
- (6) Procedures for operating the municipal waste combustor unit within the standards established;
- (7) Procedures for responding to periodic upset or off-specification conditions;
- (8) Procedures for minimizing particulate matter carryover;
- (9) Procedures for handling ash;
- (10) Procedures for monitoring municipal waste combustor unit emissions; and
- (11) Reporting and recordkeeping procedures.

(f) The owner or operator of an affected facility shall establish a training program to review the operating manual according to the schedule specified in paragraphs (f)(1) and (f)(2) with each person who has responsibilities affecting the operation of an affected facility including, but not limited to, chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers.

(1) Each person specified in paragraph (f) shall undergo initial training no later than the date specified in paragraph (f)(1)(i), (f)(1)(ii), or (f)(1)(iii), whichever is later.

- (i) The date 6 months after the date of startup of the affected facility;
- (ii) The date prior to the day the person assumes responsibilities affecting municipal waste combustor unit operation; or
- (iii) 12 months after State plan approval [40 CFR 60.39b(c)(4)(iii)].

(2) Annually, following the initial review required by paragraph (f)(1).

(g) The operating manual required by paragraph (e) shall be kept in a readily accessible location for all persons required to undergo training under paragraph (f). The operating manual and records of training shall be available for inspection by the EPA or its delegated enforcement agency upon request.

[40 CFR 60.35b, 40 CFR 60.39b(c)(4)(ii) & (iii), and 40 CFR 60.54b]

**B.23.** The requirement specified in 40 CFR 60.54b(d) does not apply to chief operators, shift supervisors, and control room operators who have obtained full certification from the American Society of Mechanical Engineers on or before the date of State plan approval.

[40 CFR 60.39b(c)(4)(iii)(A)]

**B.24.** The owner or operator of a designated facility may request that the EPA Administrator waive the requirement specified in 40 CFR 60.54b(d) for chief operators, shift supervisors, and control room operators who have obtained provisional certification from the American Society of Mechanical Engineers on or before the date of State plan approval.

[40 CFR 60.39b(c)(4)(iii)(B)]

**B.25.** The initial training requirements specified in 40 CFR 60.54b(f)(1) shall be completed no later than the date specified in (1), (2) or (3), whichever is later.

(1) The date six (6) months after the date of startup of the affected facility;

- (2) Twelve (12) months after State plan approval; or
  - (3) The date prior to the day when the person assumes responsibilities affecting municipal waste combustor unit operation.
- [40 CFR 60.39b(c)(4)(iii)(C)]

## **Emission Limitations and Standards**

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit. Also, Subpart Cb does not impose limits for Be and total fluorides, which are limited by PSD-FL-112}

### **Particulate Matter**

**B.26.** The emission limit for particulate matter contained in the gases discharged to the atmosphere is 27 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.  
[40 CFR 60.33b(a)(1)(i)]

### **Visible Emissions**

**B.27.** The emission limit for opacity exhibited by the gases discharged to the atmosphere is 10 percent (6-minute average).  
[40 CFR 60.33b(a)(1)(iii)]

### **Cadmium**

**B.28.** The emission limit for cadmium contained in the gases discharged to the atmosphere is 0.040 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.  
[40 CFR 60.33b(a)(2)(i)]

### **Mercury**

**B.29.** The emission limit for mercury contained in the gases discharged to the atmosphere is 0.070 milligrams per dry standard cubic meter or 15 percent of the potential mercury emission concentration (85-percent reduction by weight), corrected to 7 percent oxygen, whichever is less stringent.  
[40 CFR 60.33b(a)(3) and Rule 62-296.416(3)(b)1.b., F.A.C.]

**B.30. Emissions Standards for Facilities Using Waste Separation.** The Department recognizes that reduction of mercury emissions from waste-to-energy facilities may be achieved by implementation of mercury waste separation programs. Such programs would require removal of objects containing mercury from the waste stream before the waste is used as a fuel.

1. Facilities with sulfur dioxide and hydrogen chloride control equipment in place or under construction as of July 1, 1993, and which choose to control mercury emissions exclusively through the use of a waste separation program, shall submit a program plan to the Department by March 1, 1994, and shall comply with the following emissions limiting schedule.

a. After July 1, 1995, mercury emissions shall not exceed 140 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O<sub>2</sub>.

b. After July 1, 1997, mercury emissions shall not exceed 70 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O<sub>2</sub>.

2. Beginning no later than July 1, 1994, facilities subject to Rule 62-296.416(3)(b)1., F.A.C., shall perform semiannual individual emissions unit mercury emissions tests. Facilities shall stagger the

semiannual testing of individual emissions units such that at least one test is performed quarterly. All tests conducted after July 1, 1995, shall be used to demonstrate compliance with the mercury emissions limiting standards of Rule 62-296.416(3)(b)1., F.A.C.  
[Rule 62-296.416(3)(b), F.A.C.]

### **Lead**

**B.31.** The emission limit for lead contained in the gases discharged to the atmosphere is 0.44 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.  
[40 CFR 60.33b(a)(4)]

### **Sulfur Dioxide**

**B.32.** The emission limit for sulfur dioxide contained in the gases discharged to the atmosphere is 29 parts per million by volume or 25 percent of the potential sulfur dioxide emission concentration (75-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent. Compliance with this emission limit is based on a 24-hour daily geometric mean.  
[40 CFR 60.33b(b)(3)(i)]

**B.33. Not federally enforceable. Sulfur Content.** The sulfur content of the distillate fuel oil or natural gas for the auxiliary burner shall not exceed 0.3%, by weight.  
[PA-86-22]

### **Hydrogen Chloride**

**B.34.** The emission limit for hydrogen chloride contained in the gases discharged to the atmosphere is 29 parts per million by volume or 5 percent of the potential hydrogen chloride emission concentration (95-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent.  
[40 CFR 60.33b(b)(3)(ii)]

### **Dioxins/Furans**

**B.35.** The emission limit for dioxins/furans contained in the gases discharged to the atmosphere that do not employ an electrostatic precipitator-based emission control system is 30 nanograms per dry standard cubic meter (total mass of tetra- through octa chlorinated dibenzo-p-dioxins and dibenzofurans), corrected to 7 percent oxygen.  
[40 CFR 60.33b(c)(1)(ii); and PSD-FL-112(B)]

### **Nitrogen Oxides**

**B.36.** The emission limit for nitrogen oxides contained in the gases discharged to the atmosphere is 205 parts per million by volume, corrected to 7 percent oxygen, dry basis. The permittee may request authorization from the Department to conduct nitrogen oxides emissions averaging pursuant to 40 CFR 60.33b.  
[40 CFR 60.33b(d)]

### **Carbon Monoxide**

**B.37.** The emission limit for carbon monoxide contained in the gases discharged to the atmosphere is 100 parts per million by volume, measured at the combustor outlet in conjunction with a measurement of oxygen concentration, corrected to 7 percent oxygen, dry basis. Calculated as an arithmetic average. Averaging time is a 4-hour block average.

[40 CFR 60.34b(a)]

### **Fugitive Ash Emissions**

**B.38.** (a) On and after the date on which the initial performance test is completed or is required to be completed under 40 CFR 60.8 of Subpart A (see specific condition **A.52.**), no owner or operator of an affected facility shall cause to be discharged to the atmosphere visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) in excess of 5 percent of the observation period (i.e., 9 minutes per 3-hour period), as determined by EPA Reference Method 22 observations as specified in 40 CFR 60.58b(k), except as provided in paragraphs (b) and (c). See specific condition **A.49.**

(b) The emission limit specified in paragraph (a) does not cover visible emissions discharged inside buildings or enclosures of ash conveying systems; however, the emission limit specified in paragraph (a) does cover visible emissions discharged to the atmosphere from buildings or enclosures of ash conveying systems (including conveyor transfer points).

(c) The provisions of paragraph (a) do not apply during maintenance and repair of ash conveying systems.

[40 CFR 60.36b and 40 CFR 60.55b; and, PSD-FL-112(B)]

**B.39. Ash Handling Facilities.** The potential for dust generation by ash handling activities will be mitigated by quenching or conditioning the ash prior to loading in ash transport trucks. Ash handling facilities shall be enclosed (including the proposed future metal recovery area). Unprocessed refuse storage areas which must be open for operational purposes (e.g., tipping floor of the refuse bunker while trucks are entering and leaving) will be under negative air pressure. Residue from the grates, and grate siftings shall be discharged into the bottom ash quenching system, and ash from the combustor/boiler and fabric filter hoppers shall be discharged into the fly ash conditioning system during normal operations to minimize visible dust generation. The ash/residue in the Ash Handling Building shall remain sufficiently moist to minimize dust during storage and handling operations. Compliance with this condition shall be determined in accordance with specific condition **B.38.**

[PSD-FL-112(B)]

### **Beryllium**

{Permitting Note: For Be, meeting the PSD-FL-112 emissions limit ensures compliance with NESHAP limit 40 CFR 61.32(a).}

**B.40.** Stack emissions of beryllium from each unit shall not exceed  $9.30 \times 10^{-7}$  lb/mmBtu.

[PSD-FL-112]

**B.41.** Emissions to the atmosphere from stationary sources subject to the provisions of 40 CFR 61, Subpart C, shall not exceed 10 grams of beryllium over a 24-hour period.

[40 CFR 61.32(a)]

**B.42.** The burning of beryllium and/or beryllium-containing waste, except propellants, is prohibited except in incinerators, emissions from which must comply with the standard in 40 CFR 61.32(a).

[40 CFR 61.32(c)]



**Total Fluorides**

**B.43.** Stack emissions of total fluorides from each unit shall not exceed 0.0040 lb/mmBtu.  
[PSD-FL-112]

**B.44. Not federally enforceable.** Stack emissions from each unit shall not exceed the following:

Volatile Organic Compound (VOC)	0.013 lb/mmBtu
Arsenic (As)	$3.1 \times 10^{-5}$ lb/mmBtu
Sulfuric Acid Mist (SAM)	0.047 lb/mmBtu

[PA 86-22]

**Excess Emissions**

{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of an NSPS or NESHAP provision.}

**B.45.** The opacity standards set forth in 40 CFR 60 shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.  
[40 CFR 60.11(c)]

**B.46.** At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.  
[40 CFR 60.11(d)]

**B.47. Startup, Shutdown and Malfunction.** The provisions for startup, shutdown, and malfunction are provided in paragraphs (1) and (2).

(1) Except as provided by 40 CFR 60.56b, the standards under 40 CFR 60, Subpart Eb, apply at all times except during periods of startup, shutdown, or malfunction. Duration of startup, shutdown, or malfunction periods are limited to 3 hours per occurrence.

(i) The startup period commences when the affected facility begins the continuous burning of municipal solid waste and does not include any warm-up period when the affected facility is combusting fossil fuel or other nonmunicipal solid waste fuel, and no municipal solid waste is being fed to the combustor.

(ii) Continuous burning is the continuous, semicontinuous, or batch feeding of municipal solid waste for purposes of waste disposal, energy production, or providing heat to the combustion system in preparation for waste disposal or energy production. The use of municipal solid waste solely to provide thermal protection of the grate or hearth during the startup period when municipal solid waste is not being fed to the grate is not considered to be continuous burning.

[40 CFR 60.38b and 40 CFR 60.58b(a)]

**B.48.** Excess opacity resulting from startup or shutdown shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess opacity shall be minimized

but in no case exceed two hours in any 24-hour period unless specifically authorized by the Department for longer duration.

[PSD-FL-112(B)]

**B.49.** Excess emissions indicated by the CEM systems shall be considered violations of the applicable opacity limit or operating emission limits (in ppm) for the purposes of this permit provided the data represents accurate emission levels and the CEMs do not exceed the calibration drift (as specified in the respective performance specification tests) on the day when initial and subsequent compliance is determined. The burden of proof to demonstrate that the data does not reflect accurate emission readings shall be the responsibility of the permittee.

[PSD-FL-112]

**B.50.** Excess emissions resulting from startup, shutdown, or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

[Rule 62-210.700(1), F.A.C.]

**B.51.** Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during start-up, shutdown, or malfunction shall be prohibited.

[Rule 62-210.700(4), F.A.C.; and, PSD-FL-112(B)]

### **Test Methods and Procedures**

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

**B.52.** Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

[40 CFR 60.8(a)]

**B.53.** Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

[40 CFR 60.8(b)]

**B.54.** Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the

performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

[40 CFR 60.8(c)]

**B.55.** The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present.

[40 CFR 60.8(d)]

**B.56.** The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.

(2) Safe sampling platform(s).

(3) Safe access to sampling platform(s).

(4) Utilities for sampling and testing equipment.

{Permitting note: See specific condition **B.79.** and Appendix SS-1, Stack Sampling Facilities (version dated 10/7/96) for State of Florida Stack Sampling Requirements.}

[40 CFR 60.8(e)]

**B.57.** Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

[40 CFR 60.8(f)]

### **Particulate Matter and Opacity**

**B.58.** The procedures and test methods specified in paragraphs (1) through (11) shall be used to determine compliance with the emission limits for particulate matter and opacity.

(1) The EPA Reference Method 1 shall be used to select sampling site and number of traverse points.

(2) The EPA Reference Method 3, 3A or 3B, as applicable shall be used for gas analysis.

(3) The EPA Reference Method 5 shall be used for determining compliance with the particulate matter emission limit. The minimum sample volume shall be 1.7 cubic meters. The probe and filter holder heating systems in the sample train shall be set to provide a gas temperature no greater than  $160 \pm 14$  °C. An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 5 run.

(4) The owner or operator of an affected facility may request that compliance with the particulate matter emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6).

- (5) As specified under 40 CFR 60.8, all performance tests shall consist of three test runs. The average of the particulate matter emission concentrations from the three test runs is used to determine compliance.
- (6) In accordance with paragraphs (7) and (11), EPA Reference Method 9 shall be used for determining compliance with the opacity limit except as provided under 40 CFR 60.11(e)
- (7) The owner or operator of an affected facility shall conduct an initial performance test for particulate matter emissions and opacity as required under 40 CFR 60.8.
- (8) The owner or operator of an affected facility shall install, calibrate, maintain and operate a continuous opacity monitoring system for measuring opacity and shall follow the methods and procedures specified in paragraphs (8)(i) through (8)(iv).
  - (i) The output of the continuous opacity monitoring system shall be recorded on a 6-minute average basis.
  - (ii) The continuous opacity monitoring system shall be installed, evaluated and operated in accordance with 40 CFR 60.13.
  - (iii) The continuous opacity monitoring system shall conform to Performance Specification 1 in Appendix B of 40 CFR 60.
  - (iv) The initial performance evaluation shall be completed no later than 180 days after the date of the initial startup of the municipal waste combustor unit, as specified under 40 CFR 60.8.
- (9) Following the date that the initial performance test for particulate matter is completed or is required to be completed under 40 CFR 60.8 for an affected facility, the owner or operator shall conduct a performance test for particulate matter on an annual basis (no more than 12 calendar months following the previous performance test).
- (10) [reserved]
- (11) Following the date that the initial performance test for opacity is completed or is required to be completed under 40 CFR 60.8 for an affected facility, the owner or operator shall conduct a performance test for opacity on an annual basis (no more than 12 calendar months following the previous performance test) using the test method specified in paragraph (6).  
[40 CFR 60.38b and 40 CFR 60.58b(c)]

### **Cadmium, Lead and Mercury**

- B.59.** The procedures and test methods specified in paragraphs (1) and (2) shall be used to determine compliance with the emission limits for cadmium, lead, and mercury.
- (1) The procedures and test methods specified in paragraphs (1)(i) through (1)(ix) shall be used to determine compliance with the emission limits for cadmium and lead.
    - (i) The EPA Reference Method 1 shall be used for determining the location and number of sampling points.
    - (ii) The EPA Reference Method 3, 3A or 3B, as applicable, shall be used for flue gas analysis.
    - (iii) The EPA Reference Method 29 shall be used for determining compliance with the cadmium and lead emission limits.
    - (iv) An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 29 test run for cadmium and lead required under paragraph (1)(iii).
    - (v) The owner or operator of an affected facility may request that compliance with the cadmium or lead emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6).
    - (vi) All performance tests shall consist of a minimum of three test runs conducted under representative full load operating conditions. The average of the cadmium or lead emission concentrations from three test runs or more shall be used to determine compliance.

(vii) Following the date of the initial performance test or the date on which the initial performance test is required to be completed under 40 CFR 60.8, the owner or operator of an affected facility shall conduct a performance test for compliance with the emission limits for cadmium and lead on an annual basis (no more than 12 calendar months following the previous performance test).

(viii)[reserved]

(ix) [reserved]

(2) The procedures and test methods specified in paragraphs (2)(i) through (2)(xi) shall be used to determine compliance with the mercury emission limit.

(i) The EPA Reference Method 1 shall be used for determining the location and number of sampling points.

(ii) The EPA Reference Method 3, 3A or 3B, as applicable, shall be used for flue gas analysis.

(iii) The EPA Reference Method 29 shall be used to determine the mercury emission concentration. The minimum sample volume when using Method 29 for mercury shall be 1.7 cubic meters.

(iv) An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 29 test run for mercury required under paragraph (2)(iii).

(v) The percent reduction in the potential mercury emissions (%P<sub>Hg</sub>) is computed using equation 1:

$$[\%P_{HG}] = \left[ \frac{E_i - E_o}{E_i} \right] \times 100 \quad (\text{equation 1})$$

where:

%P<sub>Hg</sub> = percent reduction of the potential mercury emissions achieved.

E<sub>i</sub> = potential mercury emission concentration measured at the control device inlet, corrected to 7 percent oxygen (dry basis).

E<sub>o</sub> = controlled mercury emission concentration measured at the mercury control device outlet, corrected to 7 percent oxygen (dry basis).

(vi) All performance tests shall consist of a minimum of three test runs conducted under representative full load operating conditions. The average of the mercury emission concentrations or percent reductions from three test runs or more is used to determine compliance.

(vii) The owner or operator of an affected facility may request that compliance with the mercury emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6).

(viii) The owner or operator of an affected facility shall conduct an initial performance test for mercury emissions as required under 40 CFR 60.8.

(ix) Following the date that the initial performance test for mercury is completed or is required to be completed under 40 CFR 60.8, the owner or operator of an affected facility shall conduct a performance test for mercury emissions on an annual basis (no more than 12 calendar months from the previous performance test).

(x) [reserved]

[40 CFR 60.38b and 40 CFR 60.58b(d)]

**B.60. Mercury Emissions Test Method and Procedures.** All mercury emissions tests performed pursuant to the requirements of this rule shall comply with the following provisions.

1. The test method for mercury shall be EPA Method 29 adopted in Rule 62-297, F.A.C.
2. Test procedures shall meet all applicable requirements of Chapter 62-297, F.A.C.  
[Rule 62-296.416(3)(d), F.A.C.]

**B.61.** Mercury emissions testing shall be conducted semiannually. Mercury stack tests shall be performed downstream of control devices or upstream and downstream of the control devices when determining compliance with the alternative removal requirement.

[PSD-FL-112(B)]

### **Sulfur Dioxide**

**B.62.** The procedures and test methods specified in paragraphs (1) through (14) shall be used for determining compliance with the sulfur dioxide emission.

- (1) The EPA Reference Method 19, section 4.3, shall be used to calculate the daily geometric average sulfur dioxide emission concentration.
- (2) The EPA Reference Method 19, section 5.4, shall be used to determine the daily geometric average percent reduction in the potential sulfur dioxide emission concentration.
- (3) The owner or operator of an affected facility may request that compliance with the sulfur dioxide emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in 40 CFR 60.58b(b)(6).
- (4) The owner or operator of an affected facility shall conduct an initial performance test for sulfur dioxide emissions as required under 40 CFR 60.8. Compliance with the sulfur dioxide emission limit (concentration or percent reduction) shall be determined by using the continuous emission monitoring system specified in paragraph (5) to measure sulfur dioxide and calculating a 24-hour daily geometric average emission concentration or a 24-hour daily geometric average percent reduction using EPA Reference Method 19, sections 4.3 and 5.4, as applicable.
- (5) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring sulfur dioxide emissions discharged to the atmosphere and record the output of the system.
- (6) Following the date that the initial performance test for sulfur dioxide is completed or is required to be completed under 40 CFR 60.8, compliance with the sulfur dioxide emission limit shall be determined based on the 24-hour daily geometric average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data if compliance is based on an emission concentration, or continuous emission monitoring system inlet and outlet data if compliance is based on a percent reduction.
- (7) At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs (7)(i) and (7)(ii) for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.
  - (i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.
  - (ii) Each sulfur dioxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.
- (8) The 1-hour arithmetic averages required under paragraph (6) shall be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 24-hour daily geometric average emission concentrations and daily geometric average emission percent reductions. The 1-hour arithmetic averages shall be calculated using the data points required under 40 CFR 60.13(e)(2).

- (9) All valid continuous emission monitoring system data shall be used in calculating average emission concentrations and percent reductions even if the minimum continuous emission monitoring system data requirements of paragraph (7) are not met.
- (10) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation and operation of the continuous emission monitoring system.
- (11) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the municipal waste combustor as specified under 40 CFR 60.8.
- (12) The continuous emission monitoring system shall be operated according to Performance Specification 2 in 40 CFR 60 Appendix B.
- (i) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 in 40 CFR 60 Appendix B, sulfur dioxide and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (A) and (B).
- (A) For sulfur dioxide, EPA Reference Method 6, 6A or 6C shall be used.
- (B) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, as applicable shall be used.
- (ii) The span value of the continuous emissions monitoring system at the inlet to the sulfur dioxide control device shall be 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the municipal waste combustor unit. The span value of the continuous emission monitoring system at the outlet of the sulfur dioxide control device shall be 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the municipal waste combustor unit.
- (13) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure I in Appendix F of 40 CFR 60.
- (14) When sulfur dioxide emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 75 percent of the hours per day that the affected facility is operated and combusting municipal solid waste for 90 percent of the days per calendar quarter that the affected facility is operated and combusting municipal solid waste.  
[40 CFR 60.38b and 40 CFR 60.58b(e)]

### **Hydrogen Chloride**

**B.63.** HCl stack tests upstream and downstream of the control device(s) shall be conducted to calculate percent control to demonstrate compliance with the alternate removal limit.  
[PSD-FL-112(B)]

**B.64.** The procedures and test methods specified in paragraphs (1) through (8) shall be used for determining compliance with the hydrogen chloride emission limit.

- (1) The EPA Reference Method 26 or 26A, as applicable, shall be used to determine the hydrogen chloride emission concentration. The minimum sampling time for Method 26 shall be 1 hour.
- (2) An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 26 test run for hydrogen chloride required by paragraph (1).
- (3) The percent reduction in potential hydrogen chloride emissions (% PHCl) is computed using equation 2:

$$\left[ \% P_{HCl} \right] = \left[ \frac{E_i - E_o}{E_i} \right] \times 100 \quad (\text{equation 2})$$

where:

%P<sub>HCl</sub>=percent reduction of the potential hydrogen chloride emissions achieved.

E<sub>i</sub>=potential hydrogen chloride emission concentration measured at the control device inlet, corrected to 7 percent oxygen (dry basis).

E<sub>o</sub>=controlled hydrogen chloride emission concentration measured at the control device outlet, corrected to 7 percent oxygen (dry basis).

(4) The owner or operator of an affected facility may request that compliance with the hydrogen chloride emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in 40 CFR 60.58b(b)(6).

(5) As specified under 40 CFR 60.8, all performance tests shall consist of three test runs. The average of the hydrogen chloride emission concentrations or percent reductions from the three test runs is used to determine compliance.

(6) The owner or operator of an affected facility shall conduct an initial performance test for hydrogen chloride as required under 40 CFR 60.8.

(7) Following the date that the initial performance test for hydrogen chloride is completed or is required to be completed under 40 CFR 60.8, the owner or operator of an affected facility shall conduct a performance test for hydrogen chloride emissions on an annual basis (no more than 12 calendar months following the previous performance test).

(8) [reserved]

[40 CFR 60.38b and 40 CFR 60.58b(f)]

### **Dioxin/Furan**

**B.65.** The facility may perform less frequent testing for dioxin/furan emissions, as allowed by 40 CFR 60.38b(b) and with prior notice to the Department, if the emission unit's dioxin/furan emissions do not exceed 15 ug/dscm, corrected to 7% O<sub>2</sub>, or less.

[PSD-FL-112(B)]

**B.66.** The procedures and test methods specified in paragraphs (1) through (9) shall be used to determine compliance with the limits for dioxin/furan emissions.

(1) The EPA Reference Method 1 shall be used for determining the location and number of sampling points.

(2) The EPA Reference Method 3, 3A, or 3B, as applicable, shall be used for flue gas analysis.

(3) The EPA Reference Method 23 shall be used for determining the dioxin/furan emission concentration.

(i) The minimum sample time shall be 4 hours per test run.

(ii) An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 23 test run for dioxins/furans.

(4) The owner or operator of an affected facility shall conduct an initial performance test for dioxin/furan emissions in accordance with paragraph (3), as required under 40 CFR 60.8.

(5) Following the date that the initial performance test for dioxins/furans is completed or is required to be completed under 40 CFR 60.8, the owner or operator of an affected facility shall conduct performance



tests for dioxin/furan emissions in accordance with paragraph (3), according to one of the schedules specified in paragraphs (i) through (iii).

(i) For affected facilities, performance tests shall be conducted on an annual basis (no more than 12 calendar months following the previous performance test.)

(ii) [reserved]

(iii) Where all performance tests over a 2-year period indicate that dioxin/furan emissions are less than or equal to 7 nanograms per dry standard cubic meter (total mass) for all affected facilities located within a municipal waste combustor plant, the owner or operator of the municipal waste combustor plant may elect to conduct annual performance tests for one affected facility (i.e., unit) per year at the municipal waste combustor plant. At a minimum, a performance test for dioxin/furan emissions shall be conducted annually (no more than 12 months following the previous performance test) for one affected facility at the municipal waste combustor plant. Each year a different affected facility at the municipal waste combustor plant shall be tested, and the affected facilities at the plant shall be tested in sequence (e.g., unit 1, unit 2, unit 3, as applicable). If each annual performance test continues to indicate a dioxin/furan emission level less than or equal to 7 nanograms per dry standard cubic meter (total mass), the owner or operator may continue conducting a performance test on only one affected facility per year. If any annual performance test indicates a dioxin/furan emission level greater than 7 nanograms per dry standard cubic meter (total mass), performance tests thereafter shall be conducted annually on all affected facilities at the plant until and unless all annual performance tests for all affected facilities at the plant over a 2-year period indicate a dioxin/furan emission level less than or equal to 7 nanograms per dry standard cubic meter (total mass).

(6) The owner or operator of an affected facility that selects to follow the performance testing schedule specified in paragraph (5)(iii) shall follow the procedures specified in 40 CFR 60.59b(g)(4) for reporting the selection of this schedule.

(7) The owner or operator of an affected facility where activated carbon is used to comply with the dioxin/furan emission limits specified in 40 CFR 60.52b(c) or the dioxin/furan emission level specified in paragraph (5)(iii) shall follow the procedures specified in 40 CFR 60.58b(m) for measuring and calculating the carbon usage rate.

(8) The owner or operator of an affected facility may request that compliance with the dioxin/furan emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in 40 CFR 60.58b(b)(6).

(9) As specified under 40 CFR 60.8, all performance tests shall consist of three test runs. The average of the dioxin/furan emission concentrations from the three test runs is used to determine compliance.

[40 CFR 60.38b and 40 CFR 60.58b(g)]

### **Nitrogen Oxides**

**B.67.** The procedures and test methods specified in paragraphs (1) through (12) shall be used to determine compliance with the nitrogen oxides emission limit for affected facilities under 40 CFR 60.52b(d).

(1) The EPA Reference Method 19, section 4.1, shall be used for determining the daily arithmetic average nitrogen oxides emission concentration.

(2) The owner or operator of an affected facility may request that compliance with the nitrogen oxides emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in 40 CFR 60.58b(b)(6).

(3) The owner or operator of an affected facility subject to the nitrogen oxides limit shall conduct an initial performance test for nitrogen oxides as required under 40 CFR 60.8. Compliance with the nitrogen

oxides emission limit shall be determined by using the continuous emission monitoring system specified in paragraph (4) for measuring nitrogen oxides and calculating a 24-hour daily arithmetic average emission concentration using EPA Reference Method 19, section 4.1.

(4) The owner or operator of an affected facility subject to the nitrogen oxides emission shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring nitrogen oxides discharged to the atmosphere, and record the output of the system.

(5) Following the date that the initial performance test for nitrogen oxides is completed or is required to be completed under 40 CFR 60.8, compliance with the emission limit for nitrogen oxides shall be determined based on the 24-hour daily arithmetic average of the hourly emission concentrations using continuous emission monitoring system outlet data.

(6) At a minimum, valid continuous emission monitoring system hourly averages shall be obtained as specified in paragraphs (i) and (ii) for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.

(i) At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) Each nitrogen oxides 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.

(7) The 1-hour arithmetic averages required by paragraph (5) shall be expressed in parts per million by volume (dry basis) and used to calculate the 24-hour daily arithmetic average concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under 40 CFR 60.13(e)(2).

(8) All valid continuous emission monitoring system data must be used in calculating emission averages even if the minimum continuous emission monitoring system data requirements of paragraph (6) are not met.

(9) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous emission monitoring system. The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the municipal waste combustor unit, as specified under 40 CFR 60.8.

(10) The owner or operator of an affected facility shall operate the continuous emission monitoring system according to Performance Specification 2 in Appendix B of 40 CFR 60 and shall follow the procedures and methods specified in paragraphs(i) and (ii).

(i) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 of Appendix B of 40 CFR 60, nitrogen oxides and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs(A) and (B).

(A) For nitrogen oxides, EPA Reference Method 7, 7A, 7C, 7D or 7E shall be used.

(B) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A or 3B, as applicable shall be used.

(ii) The span value of the continuous emission monitoring system shall be 125 percent of the maximum estimated hourly potential nitrogen oxide emissions of the municipal waste combustor unit.

(11) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 1 in Appendix F of 40 CFR 60.

(12) When nitrogen oxides continuous emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained using other monitoring systems as approved by the Administrator or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 75 percent of the hours per day for 90 percent of the days per calendar quarter the unit is operated and combusting municipal solid waste.

[40 CFR 60.38b and 40 CFR 60.58b(h)]

### **Carbon Monoxide**

**B.68.** See specific condition **B.21.**  
[Rule 62-213.440, F.A.C.]

### **Fugitive Ash**

**B.69.** The procedures specified in paragraphs (1) through (4) shall be used for determining compliance with the fugitive ash emission limit under 40 CFR 60.55b.

(1) The EPA Reference Method 22 shall be used for determining compliance with the fugitive ash emission limit under 40 CFR 60.55b. The minimum observation time shall be a series of three 1-hour observations. The observation period shall include times when the facility is transferring ash from the municipal waste combustor unit to the area where ash is stored or loaded into containers or trucks.

(2) The average duration of visible emissions per hour shall be calculated from the three 1-hour observations. The average shall be used to determine compliance with 40 CFR 60.55b.

(3) The owner or operator of an affected facility shall conduct an initial performance test for fugitive ash emissions as required under 40 CFR 60.8.

(4) Following the date that the initial performance test for fugitive ash emissions is completed or is required to be completed under 40 CFR 60.8 for an affected facility, the owner or operator shall conduct a performance test for fugitive ash emissions on an annual basis (no more than 12 calendar months following the previous performance test).

[40 CFR 60.38b and 40 CFR 60.58b(k)]

### **Beryllium**

**B.70.** The test method for beryllium emissions shall be EPA Method 29, adopted and incorporated by reference in Rule 62-204.800, F.A.C. One sample shall constitute one test run.

[PSD-FL-112(B)]

**B.71.** (a) Unless a waiver of emission testing is obtained under 40 CFR 61.13, each owner or operator required to comply with 40 CFR 61.32(a) shall test emissions from the source according to Method 104 of Appendix B to 40 CFR 61. Method 103, of Appendix B to 40 CFR 61, is approved by the Administrator as an alternative method for sources subject to 40 CFR 61.32(a). The emission test shall be performed-

(1) Within 90 days of the effective date in the case of an existing source or a new source which has an initial startup date preceding the effective date; or

(2) Within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(b) The Administrator shall be notified at least 30 days prior to an emission test so that he may at his option observe the test.

(c) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in any 24-hour period. Where emissions depend upon the relative frequency of operation of different types of processes, operating hours, operating capacities, or other factors, the calculation of maximum 24-hour-period emissions will be based on that combination of factors which is likely to occur during the subject period and which result in the maximum emissions. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until a new emission level has been estimated by calculation and the results reported to the Administrator.

(d) All samples shall be analyzed and beryllium emissions shall be determined within 30 days after the source test. All determinations shall be reported to the Administrator by a registered letter dispatched before the close of the next business day following such determination.

(e) Records of emission test results and other data needed to determine total emissions shall be retained at the source and made available, for inspection by the Administrator, for a minimum of 5 years.

[40 CFR 61.33; Rule 62-213.440(b), F.A.C.]

**Total Fluoride**

**B.72.** The test method for total fluoride emissions shall be EPA Method 13A, 13B, or modified Method 5 for fluorides, adopted and incorporated by reference in Rule 62-204.800, F.A.C. One sample shall constitute one test run.

[PSD-FL-112(B); and, PA 86-22]

**B.73.** The following test methods and procedures for 40 CFR Parts 60 shall be used for compliance testing:

<b>Purpose / Substance</b>	<b>Test Methods</b>
VOC	EPA Method 18
As	EPA Method 108
SAM	EPA Method 8 (modified with prefilter)

[PA 86-22; and, PA 86-22 Alternate Stack Sampling Procedures Approval letter dated October 4, 1991]

**B.74.** Particulate testing shall include one run during representative soot blowing which shall be averaged proportionally to normal daily operations. Visible emission testing shall be conducted simultaneously with soot blowing and non-soot blowing runs.

[PA 86-22]

**B.75. Required Number of Test Runs.** For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.

[Rule 62-297.310(1), F.A.C.]

**B.76. Operating Rate During Testing.** Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

[Rules 62-297.310(2) & (2)(b), F.A.C.]

**B.77. Calculation of Emission Rate.** The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule.

[Rule 62-297.310(3), F.A.C.]

**B.78. Applicable Test Procedures.**

(a) Required Sampling Time.

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.

b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.

c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet. (See specific conditions **B.58.** and **B.59.**)

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached as part of this permit.

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

**B.79. Required Stack Sampling Facilities.** When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.

[Rule 62-297.310(6), F.A.C.]

**B.80. Frequency of Compliance Tests.** The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
    - a. Did not operate; or
    - b. In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.
  4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
    - a. Visible emissions, if there is an applicable standard;
    - b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
    - c. Each NESHAP pollutant, if there is an applicable emission standard.
  5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.
  9. The owner or operator shall notify the DEP Southeast District Office, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.
- (b) Special Compliance Tests. When the DEP Southeast District Office, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the DEP Southeast District Office.
- (c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.
- [Rule 62-297.310(7), F.A.C.; and, SIP approved]

## **Compliance With Standards and Maintenance Requirements**

**B.81.** Compliance with standards in 40 CFR 60, other than opacity standards, shall be determined only by performance tests established by 40 CFR 60.8, unless otherwise specified in the applicable standard.

[40 CFR 60.11(a)]

**B.82.** Compliance with opacity standards in 40 CFR 60 shall be determined by conducting observations in accordance with Reference Method 9 in Appendix A of 40 CFR 60, any alternative method that is approved by the Administrator, or as provided in 40 CFR 60.11(e)(5).

[40 CFR 60.11(b)]

**B.83.** The owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under 40 CFR 60.8 in lieu of EPA Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he or she shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under 40 CFR 60.8 is conducted. Once the owner or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under 40 CFR 60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under 40 CFR 60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in 40 CFR 60.13(c), that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which EPA Method 9 data indicates noncompliance, the EPA Method 9 data will be used to determine opacity compliance.

[40 CFR 60.11(e)(5)]

**B.84.** Compliance with emission limitations specified in lb/mmBtu (see specific conditions **B.40.** and **B.43.**) shall be determined by calculating an "F" factor in dscf/mmBtu, corrected to 12% CO<sub>2</sub>, using the boiler's efficiency (as determined by the calorimeter method contained in Appendix EFF during acceptance testing) and the measured steam production. Data obtained from test methods required for compliance testing shall be used for the calculation of the "F" factor required by this condition.

[PSD-FL-112]

**B.85.** Continuous compliance with the emission limits for opacity, carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>) and the operational parameters steam production (lb/hr) or feedwater flowrate (lb/hr) and fabric filter inlet flue gas temperature shall be demonstrated by continuous emission monitoring systems (CEMS) operated in accordance with 40 CFR 60.58b and 60.59b(f). SO<sub>2</sub> monitors shall be located both upstream of the scrubber and downstream of the baghouse, in order to calculate percent removal efficiency.

[PSD-FL-112(B)]

**B.86.** Each MWC unit is required to continuously monitor and record the flue gas temperature at the inlet to the PM control device in accordance with the requirements at 40 CFR 60.58b(i)(7). The PM control device inlet temperature and the steam (or feedwater) flow for each unit during the stack test shall be

continuously monitored and recorded in accordance with 40 CFR 60, Subpart Cb. Higher temperatures are allowed for testing purposes, as specified at 40 CFR 60.53b(c).  
[PSD-FL-112(B)]

## **Monitoring Requirements**

**B.87.** For the purposes of 40 CFR 60.13, all continuous monitoring systems (CMS) required under applicable subparts shall be subject to the provisions of 40 CFR 60.13 upon promulgation of performance specifications for continuous monitoring systems under Appendix B of 40 CFR 60 and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, Appendix F of 40 CFR 60, unless otherwise specified in an applicable subpart or by the Administrator. Appendix F is applicable December 4, 1987.  
[40 CFR 60.13(a)]

**B.88.** If the owner or operator of an affected facility elects to submit continuous opacity monitoring system (COMS) data for compliance with the opacity standard as provided under 40 CFR 60.11(e)(5), he shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, Appendix B, of 40 CFR 60 before the performance test required under 40 CFR 60.8 is conducted. Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the COMS or continuous emission monitoring system (CEMS) during any performance test required under 40 CFR 60.8 or within 30 days thereafter in accordance with the applicable performance specification in Appendix B of 40 CFR 60. The owner or operator of an affected facility shall conduct COMS or CEMS performance evaluations at such other times as may be required by the Administrator under section 114 of the Act.

(1) The owner or operator of an affected facility using a COMS to determine opacity compliance during any performance test required under 40 CFR 60.8, and as described in 40 CFR 60.11(e)(5), shall furnish the Administrator two or, upon request, more copies of a written report of the results of the COMS performance evaluation described in 40 CFR 60.13(c) at least 10 days before the performance test required under 40 CFR 60.8 is conducted.  
[40 CFR 60.13(c)(1)]

**B.89.** (1) Owners and operators of all continuous emission monitoring systems (CEMS) installed in accordance with the provisions of this part shall check the zero (or low-level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in Appendix B. The system must allow the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified, whenever specified. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except that for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(2) Unless otherwise approved by the Administrator, the following procedures shall be followed for continuous monitoring systems measuring opacity of emissions. Minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.  
[40 CFR 60.13(d)(1) and (2)]



**B.90.** Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR 60.13(d), all continuous monitoring systems (CMS) shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(1) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(2) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 CFR 60.13(e)(1) and (2)]

**B.91.** All continuous monitoring systems (CMS) or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of Appendix B of 40 CFR 60 shall be used.

[40 CFR 60.13(f)]

**B.92.** When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems (CMS) on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable continuous monitoring system on each separate effluent unless the installation of fewer systems is approved by the Administrator. When more than one continuous monitoring system is used to measure the emissions from one affected facility (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required from each continuous monitoring system.

[40 CFR 60.13(g)]

**B.93.** Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages and for continuous monitoring systems other than opacity to 1-hour averages for time periods as defined in 40 CFR 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. For continuous monitoring systems other than opacity, 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or non reduced form (e.g., ppm pollutant and percent O<sub>2</sub> or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).

[40 CFR 60.13(h)]

**B.94. Determination of Process Variables.**

(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with

emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

### **CEM for Oxygen or Carbon Dioxide**

**B.95.** The owner or operator of an affected facility shall install, calibrate, maintain and operate a continuous emission monitoring system and record the output of the system for measuring the oxygen or carbon dioxide content of the flue gas at each location where carbon monoxide, sulfur dioxide or nitrogen oxides emissions are monitored and shall comply with the test procedures and test methods specified in paragraphs (1) through (7).

(1) The span value of the oxygen (or carbon dioxide) monitor shall be 25 percent oxygen (or carbon dioxide).

(2) The monitor shall be installed, evaluated, and operated in accordance with 40 CFR 60.13.

(3) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under 40 CFR 60.8.

(4) The monitor shall conform to Performance Specification 3 in Appendix B of 40 CFR 60, except for section 2.3 (relative accuracy requirement).

(5) The quality assurance procedures of Appendix F of 40 CFR 60, except for section 5.1.1 (relative accuracy test audit), shall apply to the monitor.

(6) If carbon dioxide is selected for use in diluent corrections, the relationship between oxygen and carbon dioxide levels shall be established during the initial performance test according to the procedures and methods specified in paragraphs(i) through(iv). This relationship may be reestablished during performance compliance tests.

(i) The fuel factor equation in Method 3B shall be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3, 3A or 3B, as applicable, shall be used to determine the oxygen concentration at the same location as the carbon dioxide monitor.

(ii) Samples shall be taken for at least 30 minutes in each hour.

(iii) Each sample shall represent a 1-hour average.

(iv) A minimum of three runs shall be performed.

(7) The relationship between carbon dioxide and oxygen concentrations that is established in accordance with paragraph (6) shall be submitted to the EPA Administrator as part of the initial performance test report and, if applicable, as part of the annual test report if the relationship is reestablished during the annual performance test.

[40 CFR 60.38b and 40 CFR 60.58b(b)]

### **Recordkeeping and Reporting Requirements**

**B.96.** The owner or operator subject to the provisions of 40 CFR 60 shall furnish the Administrator written notification as follows:

(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days, or as soon as practicable, before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility

before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

[40 CFR 60.7(a)(4)]

**B.97.** The owner or operator subject to the provisions of 40 CFR 60 shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or, any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 CFR 60.7(b)]

**B.98. Excess Emissions Report.** An excess emissions report shall be submitted to EPA for every calendar quarter. The report shall include the following:

(1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h) (see specific condition **B.93.**), any conversion factors used, and the date and time of commencement and completion of each period of excess emissions (40 CFR 60.7(c)(1)).

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the furnace/boiler system. The nature and cause of any malfunction (if known) and the corrective action taken or preventative measures adopted shall also be reported (40 CFR 60.7(c)(2)).

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of the system repairs or adjustments (40 CFR 60.7(c)(3)).

(4) When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be stated in the report (40 CFR 60.7(c)(4)).

(5) Permittee shall maintain a file of all measurements, including continuous monitoring systems performance evaluations; all continuous monitoring systems or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this permit recorded in a permanent form suitable for inspection (40 CFR 60.7(d)).

(6) Excess emissions shall be defined as any applicable period during which the average emissions of CO, NO<sub>x</sub>, and/or SO<sub>2</sub>, as measured by the continuous monitoring system, exceeds the CO, NO<sub>x</sub>, and/or SO<sub>2</sub> maximum emission limit (in ppm) set for each pollutant in specific conditions **B.32.**, **B.36.** and **B.37.** above.

[PSD-FL-112]

**B.99.** The summary report form shall contain the information and be in the format shown in Figure 1 (attached) unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator.

(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.

*{See attached Figure 1: Summary Report-Gaseous and Opacity Excess Emission and Monitoring System Performance}*

[40 CFR 60.7(d)(1) and (2)]

**B.100.**(1) Notwithstanding the frequency of reporting requirements specified in 40 CFR 60.7(c), an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

- (i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;
- (ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in 40 CFR 60, Subpart A, and the applicable standard; and
- (iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in 40 CFR 60.7(e)(2).

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in 40 CFR 60.7(e)(1) and (e)(2).

[40 CFR 60.7(e)(1), (2), and (3)]

**B.101.** Any owner or operator subject to the provisions of 40 CFR 60 shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and, all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least **5 (five)** years following the date of such measurements, maintenance, reports, and records.

[40 CFR 60.7(f); Rule 62-213.440(1)(b)2.b., F.A.C.]

**B.102. Notification of Construction or Reconstruction.** The owner or operator of an affected facility with a capacity to combust greater than 250 tons per day shall submit a notification of construction, which includes the information specified in paragraphs (1) through (4).

- (1) Intent to construct.
- (2) Planned initial startup date.
- (3) The types of fuels that the owner or operator plans to combust in the affected facility.

(4) The municipal waste combustor unit capacity and supporting capacity calculations prepared in accordance with 40 CFR 60.58b(j).  
[40 CFR 60.39b and 40 CFR 60.59b(b)]

**B.103.** The owner or operator of an affected facility subject to the standards under 40 CFR. 60.53b, 60.54b and 60.55b shall maintain records of the information specified in paragraphs (1) through (15), as applicable, for each affected facility for a period of at least 5 years.

(1) The calendar date of each record.

(2) The emission concentrations and parameters measured using continuous monitoring systems as specified under paragraphs (i) and (ii).

(i) The measurements specified in paragraphs (A) through (D) shall be recorded and be available for submittal to the Administrator or review onsite by an inspector.

(A) All 6-minute average opacity levels as specified under 40 CFR 60.58b(c).

(B) All 1-hour average sulfur dioxide emission concentrations as specified under 40 CFR 60.58b(e).

(C) All 1-hour average nitrogen oxides emission concentrations as specified under 40 CFR 60.58b(h).

(D) All 1-hour average carbon monoxide emission concentrations, municipal waste combustor unit load measurements, and particulate matter control device inlet temperatures as specified under 40 CFR 60.58b(i).

(ii) The average concentrations and percent reductions, as applicable, specified in paragraphs (2)(ii)(A) through (2)(ii)(D) shall be computed and recorded, and shall be available for submittal to the Administrator or review on-site by an inspector.

(A) All 24-hour daily geometric average sulfur dioxide emission concentrations and all 24-hour daily geometric average percent reductions in sulfur dioxide emissions as specified under 40 CFR 60.58b(e).

(B) All 24-hour daily arithmetic average nitrogen oxides emission concentrations as specified under 40 CFR 60.58b(h).

(C) All 4-hour block or 24-hour daily arithmetic average carbon monoxide emission concentrations, as applicable, as specified under 40 CFR 60.58b(i).

(D) All 4-hour block arithmetic average municipal waste combustor unit load levels and particulate matter control device inlet temperatures as specified under 40 CFR 60.58b(i).

(3) Identification of the calendar dates when any of the average emission concentrations, percent reductions, or operating parameters recorded under paragraphs (2)(ii)(A) through (2)(ii)(D), or the opacity levels recorded under paragraph (2)(i)(A) are above the applicable limits, with reasons for such exceedances and a description of corrective actions taken.

(5) [Reserved]

(6) Identification of the calendar dates for which the minimum number of hours of any of the data specified in paragraphs (i) through (v) have not been obtained including reasons for not obtaining sufficient data and a description of corrective actions taken.

(i) Sulfur dioxide emissions data;

(ii) Nitrogen oxides emissions data;

(iii) Carbon monoxide emissions data;

(iv) Municipal waste combustor unit load data; and

(v) Particulate matter control device temperature data.

(7) Identification of each occurrence that sulfur dioxide emissions data, nitrogen oxides emissions data (large municipal waste combustors only), or operational data (i.e., carbon monoxide emissions, unit load, and particulate matter control device temperature) have been excluded from the calculation of average emission concentrations or parameters, and the reasons for excluding the data.

- (8) The results of daily drift tests and quarterly accuracy determinations for sulfur dioxide, nitrogen oxides, and carbon monoxide continuous emission monitoring systems, as required under Appendix F of 40 CFR 60, procedure 1.
- (9) The test reports documenting the results of the initial performance test and all annual performance tests listed in paragraphs (i) and (ii) shall be recorded along with supporting calculations.
- (i) The results of the initial performance test and all annual performance tests conducted to determine compliance with the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission limits.
- (ii) For the initial dioxin/furan performance test and all subsequent dioxin/furan performance tests recorded under paragraph (9)(i), the maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device temperature (for each particulate matter control device).
- (10) [Reserved]
- (12) The records specified in paragraphs (i) through (iii).
- (i) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been provisionally certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program as required by 40 CFR 60.54b(a) including the dates of initial and renewal certifications and documentation of current certification.
- (ii) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been fully certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program as required by 40 CFR 60.54b(b) including the dates of initial and renewal certifications and documentation of current certification.
- (iii) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have completed the EPA municipal waste combustor operator training course or a State-approved equivalent course as required by 40 CFR 60.54b(d) including documentation of training completion.
- (13) Records showing the names of persons who have completed a review of the operating manual as required by 40 CFR 60.54b(f) including the date of the initial review and subsequent annual reviews.
- (14) For affected facilities that apply activated carbon for mercury or dioxin/furan control, identification of the calendar dates when the average carbon mass feed rates recorded under (4)(iii) were less than either of the hourly carbon feed rates estimated during performance tests for mercury or dioxin/furan emissions and recorded under paragraphs (4)(i) and (4)(ii), respectively, with reasons for such feed rates and a description of corrective actions taken.
- [40 CFR 60.39b and 40 CFR 60.59b(d)]

**B.104.** The owner or operator of an affected facility shall submit the information specified in paragraphs (1) through (6) in the initial performance test report.

- (1) The initial performance test data as recorded under 40 CFR 60.59b(d)(2)(ii)(A) through (d)(2)(ii)(D) for the initial performance test for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, and particulate matter control device inlet temperature.
- (2) The test report documenting the initial performance test recorded under 40 CFR 60.59b(d)(9) for particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emissions.
- (3) The performance evaluation of the continuous emission monitoring system using the applicable performance specifications in Appendix B of this part.

(4) The maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device inlet temperature(s) established during the initial dioxin/furan performance test as recorded under 40 CFR 60.59b(d)(9).  
[40 CFR 60.39b and 40 CFR 60.59b(f)]

**B.105.** Following the first year of municipal combustor operation, the owner or operator of an affected facility shall submit an annual report including the information specified in paragraphs (1) through (4), as applicable, no later than February 1 of each year following the calendar year in which the data were collected (once the unit is subject to permitting requirements under Title V of the Act, the owner or operator of an affected facility must submit these reports semiannually).

(1) A summary of data collected for all pollutants and parameters regulated under this subpart, which includes the information specified in paragraphs (i) through (v).

(i) A list of the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels achieved during the performance tests recorded under 40 CFR 60.59b(d)(9).

(ii) A list of the highest emission level recorded for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, and particulate matter control device inlet temperature based on the data recorded under 40 CFR 60.59b(d)(2)(ii)(A) through (d)(2)(ii)(D).

(iii) List the highest opacity level measured, based on the data recorded under 40 CFR 60.59b(d)(2)(i)(A).

(iv) The total number of days that the minimum number of hours of data for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load, and particulate matter control device temperature data were not obtained based on the data recorded under 40 CFR 60.59b(d)(6).

(v) The total number of hours that data for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load, and particulate matter control device temperature were excluded from the calculation of average emission concentrations or parameters based on the data recorded under 40 CFR 60.59b(d)(7).

(2) The summary of data reported under paragraph (1) shall also provide the types of data specified in paragraphs (1)(i) through (1)(vi) for the calendar year preceding the year being reported, in order to provide the Administrator with a summary of the performance of the affected facility over a 2-year period.

(3) The summary of data including the information specified in paragraphs (1) and (2) shall highlight any emission or parameter levels that did not achieve the emission or parameter limits specified under this subpart.

(4) A notification of intent to begin the reduced dioxin/furan performance testing schedule specified in 40 CFR 60.58b(g)(5)(iii) during the following calendar year.

[40 CFR 60.39b and 40 CFR 60.59b(g)]

**B.106.** The owner or operator of an affected facility shall submit a semiannual report that includes the information specified in paragraphs (1) through (5) for any recorded pollutant or parameter that does not comply with the pollutant or parameter limit specified under this subpart, according to the schedule specified under paragraph (6).

(1) The semiannual report shall include information recorded under 40 CFR 60.59b(d)(3) for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, particulate matter control device inlet temperature, and opacity.

(2) For each date recorded as required by 40 CFR 60.59b(d)(3) and reported as required by paragraph (1), the semiannual report shall include the sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, particulate matter control device inlet temperature, or opacity data, as

applicable, recorded under 40 CFR 60.59b(d)(2)(ii)(A) through (d)(2)(ii)(D) and (d)(2)(i)(A), as applicable.

(3) If the test reports recorded under 40 CFR 56.59b(d)(9) document any particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels that were above the applicable pollutant limits, the semiannual report shall include a copy of the test report documenting the emission levels and the corrective actions taken.

(4) The semiannual report shall include the information recorded under 40 CFR 60.59b(d)(15) for the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate.

(5) For each operating date reported as required by paragraph (4), the semiannual report shall include the carbon feed rate data recorded under 40 CFR 60.59b(d)(4)(iii).

(6) Semiannual reports required by this condition shall be submitted according to the schedule specified in paragraphs (i) and (ii).

(i) If the data reported in accordance with paragraphs (1) through (5) were collected during the first calendar half, then the report shall be submitted by August 1 following the first calendar half.

(ii) If the data reported in accordance with paragraphs (1) through (5) were collected during the second calendar half, then the report shall be submitted by February 1 following the second calendar half.

[40 CFR 60.39b and 40 CFR 60.59b(h)]

**B.107.** All reports specified under 40 CFR 60.59b(a), (b), (c), (f), (g), (h) and (i) shall be submitted as a paper copy, postmarked on or before the submittal dates specified under these paragraphs, and maintained onsite as a paper copy for a period of 5 years.

[40 CFR 60.39b and 40 CFR 60.59b(j)]

**B.108.** All records specified under 40 CFR 60.59b(d) and (e) shall be maintained onsite in either paper copy or computer-readable format, unless an alternative format is approved by the Administrator.

[40 CFR 60.39b and 40 CFR 60.59b(k)]

**B.109.** If the owner or operator of an affected facility would prefer a different annual or semiannual date for submitting the periodic reports required by 40 CFR 60.59b(g), (h) and (i), then the dates may be changed by mutual agreement between the owner or operator and the Administrator according to the procedures specified in 40 CFR 60.19(c) of Subpart A of 40 CFR 60.

[40 CFR 60.39b and 40 CFR 60.59b(l)]

**B.110.** In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the DEP Southeast District Office in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the DEP Southeast District Office.

Rule 62-210.700(6), F.A.C.]

**B.111.** Submit to the Department a written report of emissions in excess of emission limiting standard for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years.

[Rule 62-213.440, F.A.C.]

**B.112. CEM Data**

(1) CEM data recorded during periods of startup, shutdown, and malfunction shall be reported but excluded from compliance averaging periods for CO, NO<sub>x</sub> and opacity.



(2) CEM data recorded during periods of startup and shutdown shall be excluded from compliance averaging periods for SO<sub>2</sub>.

(3) CEM data recorded during periods of acid gas control device malfunctions shall be excluded from compliance averaging periods for SO<sub>2</sub> provided that the preceding thirty day period which ends on the last day of the malfunction period meets an average SO<sub>2</sub> emission limit equal to the SO<sub>2</sub> limit specified in condition . CEM data must be available for 90% of the operating time for this exemption to apply. A malfunction as used in this permit means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

[PSD-FL-112]

**B.113.** Continuous emissions monitoring data shall be reported to the DEP Southeast District Office and EPA Region 4 on a quarterly basis in accordance with Rule 62-204.800(8), F.A.C. and 40 CFR 60.7 (see specific condition **B.98.**).

[PSD-FL-112(B)]

**B.114. Test Reports.**

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the DEP Southeast District Office on the results of each such test.

(b) The required test report shall be filed with the DEP Southeast District Office as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the DEP Southeast District Office to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.

16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.

17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.

18. All measured and calculated data required to be determined by each applicable test procedure for each run.

19. The detailed calculations for one run that relate the collected data to the calculated emission rate.

20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.

21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

**B.115.** Monthly records shall be maintained of the amount of natural gas and distillate fuel oil used by the auxiliary burners of each MSW unit, the equivalent heat input from natural gas and distillate fuel oil (calculated using the heat value for natural gas/fuel oil provided by the natural gas/fuel oil supplier), and the distillate fuel oil sulfur content (provided by fuel oil supplier) . On an annual basis (no later than 30 days after the end of the calendar year), a demonstration must be performed based on the monthly records showing that the capacity factor for natural gas and distillate fuel oil for each unit was 10% or less.

[Rule 62-213.440, F.A.C.]

**B.116. Charging Rate Monitoring.** The daily solid waste charging rate and hours of operation shall be determined and recorded for each MWC unit. The daily charging rate shall be determined each month on an average daily basis for each MWC unit using the Facility's truck scale weight data, refuse pit inventory and MWC operating data for the preceding calendar month. Monthly truck scale weight records on the weight of solid waste received and processed at the Facility and refuse pit inventory shall be used to determine the amount of solid waste charged during the preceding calendar month on an average daily basis. The MWC load level measurements or other operating data shall be used to determine the number of operating hours per MWC unit for each day during the preceding calendar month.

[40 CFR 60.53(a); and, PSD-FL-112(B)]

**B.117. Segregated Solid Waste Record Keeping.** The following records shall be made and kept to demonstrate compliance with the segregated non-MSW percentage limitations of specific condition **B.16.**

(1) Each segregated load of non-MSW materials, that is subject to the percentage weight limitation of specific condition **B.16.**, which is received for processing shall be documented as to waste description and weight. The weight of all waste materials received for processing shall be measured using the facility truck scale and recorded.

(2) Each day the total weight of segregated tires received shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30 day total weight of tires shall be divided by the total weight of all waste materials received in the same 30 day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 3% limitation.

(3) Each day the total weight of segregated non-MSW materials received that are subject to the 5% restriction shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30 day total weight of segregated non-MSW materials shall be divided by the total weight of all waste materials received in the same 30 day period, and the resultant number shall

be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 5% limitation.

[PSD-FL-112(B)]

**B.118. Acid Rain Part Application.** For any unit which was a solid waste incinerator, burning less than 20 percent fossil fuel as described in 40 CFR 72.6(b)(7), adopted and incorporated by reference at Rule 62-204.800, F.A.C. the designated representative of the source containing the unit shall submit a complete Acid Rain Part application governing such unit to the Department before the later of January 1, 1998, or March 1 of the year following the three calendar year period in which the incinerator consumed 20 percent or more fossil fuel on a British thermal unit (BTU) basis.

[Rule 62-214.320(1)(h), F.A.C.]

**Subsection C. This section addresses the following emissions units.**

<b>E.U. ID No.</b>	<b>Brief Description: Material Handling Systems and Treatment Operations</b>
-004	236 Ton Lime Silo
-005	Ash Handling System with a Baghouse

Emissions unit -004 is a 236 ton capacity silo for storage of pebble lime. It is part of the spray dry absorber (SDA) system used for control of acid gases and sulfur dioxide emissions from the municipal waste combustion units. A supply truck pneumatically transfers pebble lime to the silo through a fill line. A Wheelabrator Air Pollution Control Jet III baghouse (Model No. 1016, BA-108) is used to control particulate matter emissions during silo filling. The baghouse parameters are as follows: stack height = 102 feet; exit dimensions (rectangular vent) = 2.67 x 1 feet; exit temperature = 40-100 °F, actual volumetric flowrate = 1,500 acfm. The initial startup date of the silo was February, 1992.

Emissions unit -005 is the Ash Handling System. It receives fly ash and spray dryer reaction products (calcium sulfate, calcium chloride, calcium hydroxide, calcium fluoride). Particulate matter and visible emissions from the ash handling system are controlled by a MAC Filter baghouse (Model 120 LST 100). The baghouse parameters are as follows: stack height = 60 feet; exit dimensions (rectangular vent) = 2.33 x 1.5 feet; exit temperature = 40-100 °F, actual volumetric flowrate = 8,000 acfm. The initial startup date of the ash handling system was February, 1992.

{Permitting note(s): Emissions units -004 and -005 are minor sources that were permitted under AC06-186997, AC06-186998 (March 12, 1991) and AO06-208187.}

**The following specific conditions apply to the emissions unit(s) listed above:**

**Essential Potential to Emit (PTE) Parameters**

**C.1. Permitted Capacity.**

- (1) The lime storage silo filling rate shall not exceed 40,000 lbs/hr of pebble lime.
  - (2) The Ash Handling System charging rate shall not exceed 21,435 lb/hr of fly ash and spray dryer reaction products.
- [Initial Title V Application received June 17, 1996]

**C.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition C.15.**

[Rule 62-297.310(2), F.A.C.]

**C.3. Hours of Operation. Each unit may operate continuously, i.e., 8,760 hrs/yr.**

[Rules 62-213.440 and 62-210.200(PTE), F.A.C.; and, AC06 186997 & AC06-186998]

**Emission Limitations and Standards**

{Permitting Note: The attached Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

**C.4. Particulate Matter Emissions. Particulate matter emissions from the fly ash handling system and lime silo baghouses shall not exceed 0.010 gr./dscf, nor 3.0 tons/year and 0.021 tons/year, respectively.**

[AC06-186997 & AC06-186998]

**C.5. Visible Emissions.** Visible emissions from lime silo and fly ash handling system shall not exceed 5% opacity for these minor sources equipped with baghouses (see specific condition **C.13.**).  
[Rule 62-297.620(4), F.A.C., and AC06-186997 & AC06-186998]

**C.6.** All conveyor loading points, transfer points and all ash processing equipment shall be properly enclosed. The facility shall be operated by personnel properly trained for the equipment herein. The Department shall have been notified in writing on how the facility staff would be staffed and trained.  
[AC06-186997 & AC06-186998]

### **Excess Emissions**

**C.7.** Excess emissions resulting from startup, shutdown or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.  
[Rule 62-210.700(1), F.A.C.]

**C.8.** Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.  
[Rule 62-210.700(4), F.A.C.]

### **Monitoring of Operations**

**C.9. Determination of Process Variables.**

(a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

### **Test Methods and Procedures**

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

**C.10. Annual Tests Required.** Annual visible emissions compliance tests shall be performed for each emissions unit.

[Rule 62-297.310(7), F.A.C.]

**C.11. Visible Emissions.** The test method for visible emissions shall be EPA Method 9, adopted and incorporated in Rule 62-204.800, F.A.C. The visible emissions test for the lime silo shall be conducted

for the entire truck unloading operation. The visible emissions test for the fly ash handling system shall be conducted along with the particulate test (when required by specific condition **C.13.**) and shall be for at least 60 minutes.

[AC06-186997 & AC06-186998]

**C.12. Particulate Matter Emissions.** The test method for particulate matter emissions for all units shall be EPA Method 5, adopted and incorporated in Rule 62-204.800, F.A.C.

[AC06-186997 & AC06-186998]

**C.13. Particulate Matter Emissions.** In the case of an emissions unit which has the potential to emit less than 100 tons per year of particulate matter and is equipped with a baghouse, the Department waives any particulate matter compliance test requirements for such emissions unit specified in any otherwise applicable rule, and specifies an alternative standard of 5% opacity.

If the Department has reason to believe that the particulate weight emission standard applicable to such an emissions unit (see specific condition **C.4.**) is not being met, it shall require that compliance be demonstrated by the test method specified in the applicable rule (see specific condition **C.12.**).

[Rule 62-297.620(4), F.A.C]

**C.14. Required Number of Test Runs.** For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.

[Rule 62-297.310(1), F.A.C.]

**C.15. Operating Rate During Testing.** Testing of emissions shall be conducted with each emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

[Rules 62-297.310(2) & (2)(b), F.A.C.]

**C.16. Calculation of Emission Rate.** The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the separate test runs unless otherwise specified in a particular test method or applicable rule.

[Rule 62-297.310(3), F.A.C.]

**C.17. Applicable Test Procedures.**

(a) **Required Sampling Time.**

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
  2. **Opacity Compliance Tests.** When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
    - a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
    - b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
    - c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.
- (b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.
- (c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.
- (d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached to this permit.
- (e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.  
[Rule 62-297.310(4), F.A.C.]

**C.18. Required Stack Sampling Facilities.** When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.  
[Rule 62-297.310(6), F.A.C.]

**C.19. Frequency of Compliance Tests.** The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

- a. Did not operate; or

- b. In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.
- 4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
  - a. Visible emissions, if there is an applicable standard;
  - b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
  - c. Each NESHAP pollutant, if there is an applicable emission standard.
- 5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.
- 9. The owner or operator shall notify the DEP Southeast District Office, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the DEP Southeast District Office, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the DEP Southeast District Office.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.; and, SIP approved]

## **Recordkeeping and Reporting**

**C.20.** In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the DEP Southeast District Office in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the DEP Southeast District Office.

[Rule 62-210.700(6), F.A.C.]

### **C.21. Test Reports.**

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the DEP Southeast District Office on the results of each such test.

(b) The required test report shall be filed with the DEP Southeast District Office as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the DEP Southeast District Office to determine if the test was properly conducted and the test



results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rules 62-213.440 and 62-297.310(8), F.A.C.]

## **Appendix I-1, List of Insignificant Emissions Units and/or Activities.**

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The facilities, emissions units, or pollutant-emitting activities listed in Rule 62-210.300(3)(a), F.A.C., Categorical Exemptions, are exempt from the permitting requirements of Chapters 62-210 and 62-4, F.A.C.; provided, however, that exempt emissions units shall be subject to any applicable emission limiting standards and the emissions from exempt emissions units or activities shall be considered in determining the potential emissions of the facility containing such emissions units. Emissions units and pollutant-emitting activities exempt from permitting under Rule 62-210.300(3)(a), F.A.C., shall not be exempt from the permitting requirements of Chapter 62-213, F.A.C., if they are contained within a Title V source; however, such emissions units and activities shall be considered insignificant for Title V purposes provided they also meet the criteria of Rule 62-213.430(6)(b), F.A.C. No emissions unit shall be entitled to an exemption from permitting under Rule 62.210.300(3)(a), F.A.C., if its emissions, in combination with the emissions of other units and activities at the facility, would cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

The below listed emissions units and/or activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

### Brief Description of Emissions Units and/or Activities:

1. Slaker A
2. Slaker B
3. 3 Chemical Feed Tanks (for Boiler Nos 1-3)
4. 2 Cooling Tower Bulk Chemical Tanks
5. Solvent Degreaser
6. Metals Removal System Discharge Chute
7. Plant Roads

**Appendix EFF,**  
**Calorimeter Method of Boiler Efficiency Determination**

## ATTACHMENT A

AN EXAMINATION OF PROPOSED ACCEPTANCE  
TESTING METHODS

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## ABSTRACT

This paper describes test procedures proposed to be used to determine the acceptance or operational performance of solid waste incinerators with heat recovery. The throughput capacity of the heat recovery incinerator, volume and mass reduction, environmental emissions, and overall thermal efficiency are used as performance indicators.

To develop the performance test, the manufacturers of heat recovery incinerators (HRI's) were contacted to obtain literature describing their products. The literature was reviewed to determine the characteristics that manufacturers use to describe their HRI's, and to learn general operating procedures and conditions. The Power Test Codes of the American Society of Mechanical Engineers (ASME) were reviewed to see whether they could be used for testing HRI's. In addition, the proposals presented at the last three National Waste Processing Conferences were also reviewed. Four efficiency test procedures—the input-output, heat-loss, modified heat-loss, and calorimeter methods—were identified from this information, along with an alternate concept of separate combustion efficiency and thermal energy recovery testing. Recommendations are made as to what should be considered as the "standard" for acceptance testing, based upon a user's perspective.

## INTRODUCTION

The Resource Conservation and Recovery Act of 1976 recommended the use of recovered-material derived fuels to the maximum extent practical in Federally owned fossil fuel fired energy systems. To fulfill the intent of this Act and to take advantage of possible energy cost savings, the Army has undertaken the task of installing heat recovery incinerators (HRI's) at various installations throughout the continental United States. To provide planning guidance for such HRI installations, the U.S. Army Construction Engineering Research Laboratory (USA-CERL) has developed several publications [1-3]. Currently, HRI's are operational at Fort Eustis, Virginia, Fort Leonard Wood, Missouri, Fort Rucker, Alabama, and Redstone Arsenal, Alabama. By 1990, it is expected that waste may be burned at over 15 Army installations.

Unlike other large-scale equipment, such as coal- or oil-fired boilers, no standard performance test is currently available to assess field performance or to use as an acceptance test specifically for HRI plants. Within the Army, Directorates of Engineering and Housing (DEH's) and District Engineers need standard performance test procedures to trouble-shoot HRI systems and to ensure that new HRI's meet waste throughput and efficiency specifications before the systems are accepted and turned over to the DEH for operation.

Manufacturers of HRI's were contacted to obtain literature describing their incinerators. The literature was reviewed to determine the characteristics that manufacturers use to describe their products, and to learn general operating procedures and conditions. The American Society of Mechanical Engineers (ASME) Power Test Codes (PTC 4.1 and PTC 33) were reviewed to see whether they could be used for testing HRI's. The Naval Civil Engineering Laboratory procedures in HRI testing were reviewed for applicable testing information. It was determined that the basis, or core, of the acceptance test should be the repeated ability to demonstrate that the unit will operate at the specified thermal efficiency while simultaneously achieving the rated throughput capacity, weight and volume reduction, steam (or other thermal) output, and environmental emissions. While thermal efficiency (the ability to release the theoretical heat energy available in a useful form) can not be the sole criteria for acceptance, it is the best single indicator of the correctness of design and quality of manufacture.

The Army's requirement is for an acceptance test developed for HRI's in the range of 20-100 TPD (18-91 tpd) of solid waste. Tests for compliance with clean air requirements are defined by local, State, and Federal agencies. It is intended that new HRI's meet stipulated capacity, volume and weight reduction and efficiency guarantees while operating in compliance with clean air requirements. Therefore, the test procedures must be conducted concurrently with environmental testing, assuring compliance with air emission standards during normal operation.

Unfortunately, no matter how rigorous an acceptance test is, the performance standards that the HRI is required to meet must be clearly and completely defined in the project specifications. The test itself will not prevent or correct problems that previous HRI projects have encountered. However, the test procedures described in this paper will reveal the existence of these problems.

#### ELEMENTS OF A GOOD ACCEPTANCE TEST

The question of an appropriate and accurate HRI acceptance test is a matter that has been discussed in technical papers at the three ASME National Waste Processing Conferences in 1980, 1982, and 1984 [4-7]. The acceptance testing of an HRI is a very complex issue due to both the variability of the quality (heat content versus moisture and noncombustibles) of the

refuse and the variety of technologies used to burn it, some of which are still developing. The simplest acceptance test would be to see if the HRI could produce the rated amount of steam when firing the rated amount of refuse and supplementary fuel (if required). Unfortunately, this does not take into consideration possible variations in the heat content (Btu/lb) of the waste which may allow a poorly operating unit to still make its rated steam output (high Btu waste) or may prohibit a well operating unit from making its rated steam output (low Btu waste) at the rated mass firing rate. There seems to be a general consensus by most investigators, in this area, that thermal efficiency is the best indicator of quality of performance, since it takes into consideration the heat content of the waste stream.

However, none of the investigators that have reported at the conferences referenced above, has directly addressed the problem of how much the thermal efficiency of the various HRI technologies may change due to "off design" operation as a result of burning waste of a quality other than that specified. The main controversy seems to be the method (and the degree of effort) that should be the standard in determining that thermal efficiency. Much of this controversy is prompted by the difficulty in determining the Higher Heating Value (HHV) of the waste. The various proposals that were made, have had the implied aim of minimizing the effect of this uncertainty. Very little effort has been made to develop automated equipment for more economic and accurate determination of the waste HHV. The National Bureau of Standards (NBS) has developed a calorimeter for "large", kilogram size RDF pellets. However, the methods for making this determination are still very labor intensive and involve the collection and processing of large amounts of waste in order to achieve a reasonable accuracy.

In addition to the above, it must not be forgotten that thermal efficiency can not be the sole criterion for acceptance, although it may be the central part or core of testing. The plant must also have the capability of processing the design amount of waste, produce acceptable environmental emissions, discharge ash that exhibits the desired volume and mass reductions, and do all of this reliably. The plant must be able to do all of these things, including demonstrating an acceptable thermal efficiency, at the same time. USA-CERL is currently recommending that acceptance testing consist of three 24 hr runs conducted within 5 days in order to demonstrate reliability. With the exception of thermal efficiency testing, all of the above criteria have very specific and well defined methods of being measured.

## THERMAL EFFICIENCY TESTING PROCEDURES

The efficiency testing procedures described in this paper can serve two purposes. First, they may be used as the basis of an acceptance test to establish whether a specific system has complied with the capacity, volume and mass reduction, and efficiency criteria in the specification under which it was purchased. Second, these tests can be used as a periodic performance evaluation indicating when abnormally high inefficiencies are occurring. In this instance, the test is conducted regularly and the information is compared with that from previous tests. Reduced thermal efficiency may also indirectly indicate the possibility of environmental emission problems. This comparison may be made because of the common procedure and data base.

To accomplish these tasks, four thermal efficiency testing procedures have been identified, along with an alternate concept of separate combustion efficiency and thermal energy recovery testing. The primary procedures are the input-output, the heat-loss, the modified heat-loss, and the calorimeter methods. Figure 1 provides a very simplified illustration of most of the factors that must be considered in utilizing these methods. They are discussed in detail in the previously referenced papers [4-7] and are described by the following equations:

Input-output method:

Thermal efficiency (%)

$$= \frac{\text{Useful Heat Output}}{\text{Heat Input}} \times 100 \quad (1)$$

Heat-loss method:

Thermal efficiency (%)

$$= \left( 1 - \frac{\text{Losses}}{\text{Heat Input}} \right) \times 100 \quad (2)$$

Modified heat-loss method:

Thermal efficiency (%)

$$= \left( 1 - \frac{\text{Major Losses}}{\text{Heat Input}} \right) \times 100 \quad (3)$$

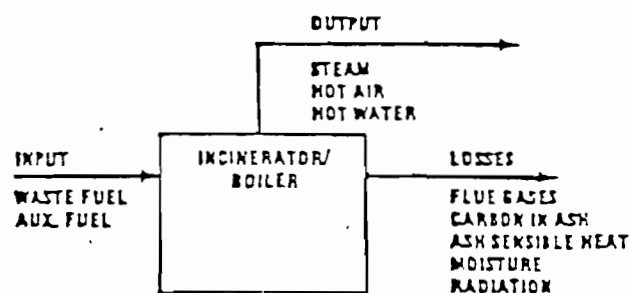


FIG. 1 ENERGY FLOW

Calorimeter method:

Thermal efficiency (%)

$$= \left( \frac{\text{Useful Heat Output}}{\text{Useful Heat Output} + \text{Losses}} \right) \times 100 \quad (4)$$

## INPUT-OUTPUT

As the name input-output implies, only the energy inputs and the useful energy outputs are measured. The main disadvantage with this method is the accurate determination of the heat content of the waste. This normally involves the collection of large amounts of waste and making the determination based upon many laboratory analyses, sorting the waste into its components, or making a visual estimation. This method of efficiency determination is essentially based upon the very definition of thermal efficiency. However, it will only indicate that a problem exists and does nothing to define the problem.

The main advantage of the input-output method is that it is the simplest of the four. Much of the required instrumentation should already exist as a part of the system's normal operating controls. Moreover, there is a requirement for less data and laboratory analysis than with the other methods; except for the modified heat loss method, which is also the least accurate. The only method that has the potential for more accuracy than the input-output method is the calorimeter method, which is also very complex.

## HEAT LOSS

The heat-loss method, which is also sometimes (erroneously) referred to as the heat-balance method, is less accurate than the input-output method. This

method involves the measurement of heat losses from the system, such as sensible and latent heat in the flue gas, sensible heat in the ash, combustible material in the ash, radiation and convection from the incinerator and boiler surfaces, latent heat from evaporation of ash quench water, and heat contained in boiler blow-down. This method varies from the calorimeter and input-output methods in that the useful energy output is not measured, but the total heat input is measured and some smaller heat losses may be partially estimated. The accuracy of this method is variable, based upon the number of the losses estimated and the accuracy of that estimation. In addition, this method is also affected by the accuracy of the determination of the heat content of the waste, as noted above; and the accuracy of the determination of the moisture in the flue gas, which will have a large impact upon the gas latent heat losses. The results of a heat-loss determination will never agree (in practice) with the results of the input-output method (based upon coal fired boiler experience), although the difference may be as little as 2%.

While the heat-loss method is more difficult and potentially less accurate than the input-output method, its advantage is that it does provide more useful information. For example, if an incinerator system is not operating efficiently, this method should show where the excessive losses are (e.g., unburned carbon in the residue, high exit gas temperature, etc.). Hence, this method is most valuable in identifying operating and maintenance problems, and preferred by many engineers for all types of fossil fuel fired facilities.

#### SHORT FORM (MODIFIED) HEAT LOSS

The least accurate method is the modified or "short form" of the heat-loss determination. This method was proposed by Hecklinger and Grillo in 1982 [5] and based upon earlier recommendations by Stabenow in 1980 [4]. Although it is the least accurate, it is also extremely simple and quick. It is based upon the assumption that the major heat loss in the system is up the stack and normally involves taking only  $O_2$  and temperature measurements on the stack gases in addition to measuring the fuel firing rate. This is a good assumption for oil/gas fired boilers and is reasonable for most of the larger coal fired boilers where efficient combustion of the fuel is very certain and the amount of moisture in these gases is low and well defined. With the thermal efficiency calculation depending so heavily on so few measurements, the highly variable and generally larger amounts of moisture in the stack gases

from an HRI can have a large impact on the results, as noted above in the discussion of the heat loss method. Additionally, incomplete combustion of the waste can result in losses as significant as the stack losses as demonstrated by some of the operating instances at Fort Knox and Fort Eustis where labels and other paper goods were readable after going through the incinerator. This can be compensated for by measuring the ash production rate and the carbon content of the ash. Unfortunately, that would make this method almost as complex, but still less accurate than the input-output method. However, this method could be used for day-to-day comparative indications of changes in thermal efficiency that may require more detailed investigation. It could also be used to monitor the results of changes associated with the operating crew and/or maintenance procedures.

#### CALORIMETER

The most rigorous method (which is used in Europe) is to use the HRI as a continuous calorimeter. The calorimeter method is much more complex than any of the other methods. It involves doing a complete mass and energy balance around the HRI, with the only unknown being the heat content of the waste stream. This involves a very large number of measurements (some of which can be quite tedious, such as heat loss to ash quench water including evaporation) and much more instrumentation than normally found on all but the largest HRI's. Essentially, all of the losses associated with the heat-loss method, and the energy output measurements associated with the input-output method, must be actually made, and not estimated. If these measurements are made carefully with accurate instrumentation, this method would produce the most accurate results, and avoid the problem of determining the heat content of the waste. However, the measurement of the total moisture of the flue gas is still a major problem at this time, since the traditional EPA Method 5 only involves grab samples. The amount of this moisture can be quite significant if internal sprays are used to cool the combustion zone, the waste is very wet, and/or a quench, ash cooling system is used that is not isolated from the combustion zone. In addition, the potential improvement in accuracy over the input-output method is not significant (0.73% [7]) based upon the size range and lack of sophistication of typical Army HRI plants.

Due to the complexity involved, the not yet totally resolved question of measuring the moisture in the flue gas, and a relatively small increase in accuracy, this

method is not considered appropriate for the size and type of HRI plants the Army would typically build. Starved air technology (the most common type of plant), specifically, is not sufficiently developed to warrant this level of accuracy, and additional instrumentation would have to be supplied (at a significant additional cost), especially for the testing. However, this method would be appropriate to very large (greater than 75 TPD/unit) excess air/water wall plants that also might include electrical cogeneration, and would most likely already have all of the instrumentation necessary, and represent both a state of the art and a magnitude of investment that would warrant this level of accuracy and effort. This type of plant would be typical of what the Army would be involved with on a joint basis with a local municipality.

### AN ALTERNATE CONCEPT

The basis of this alternate concept is to consider that an HRI facility has two basic purposes: thermal reduction of the waste and energy recovery. These two functions could be examined separately and tested independently of each other. This would involve testing the boiler (separate or integral) by delivering to it the rated amount of hot gases at the temperature specified, and measuring its thermal efficiency by conventional methods. These hot gases would be produced by conventional firing of gas or oil. The efficiency of the incinerator itself would be measured only by determining the amount of carbon in the ash as an indicator of completeness of combustion at the design firing rate. The functioning of the incinerator and the heat content of the waste would not be directly involved in the determination of the efficiency of producing useful thermal output. Unfortunately, incinerators are not normally supplied with start-up and auxiliary (secondary zone) burners of sufficient size to produce the boiler's rated steam output without burning any waste. However, some manufacturers of modular starved air systems do offer an option of a burner installed in the heat recovery boiler, capable of full steam production, as a back-up, in the event the incinerator ceases to function and steam output must be maintained. In these cases, this separate testing concept could be applicable.

### CONCLUSIONS AND RECOMMENDATIONS

This paper has documented the investigation of a standard performance test for Army HRI's. The pro-

posed test methods are based on existing ASME boiler and incinerator test procedures. A summary comparison of them may be found in Table 1. Unfortunately, there has not yet been any field comparison of these methods, and they have only been examined on a theoretical basis. It is recommended that the input-output method be used by the Army as the basis for the thermal efficiency portion of acceptance testing. The heat-loss method should be used to isolate the areas of inefficiencies should losses be excessive. The modified heat-loss method could be used for routine monitoring of the system. It is also recommended that the Army encourage the use of the calorimeter method for commercial HRI installations of unit sizes larger than 75 TPD (generally beyond starved air size), since that method seems most appropriate for plants of that size and expected sophistication. The alternate concept of separate combustion efficiency and thermal recovery testing should be allowed as an alternative where appropriate.

The procedure recommended above has been field tested for applicability at the Redstone Arsenal, Alabama, HRI. Revisions were made to the test procedure details to maximize the use of field available equipment. In addition, contractor-supplied data from performance and emissions tests at the Fort Leonard Wood, Missouri, HRI have been reviewed to evaluate the results of the procedure.

This paper is a condensation of a technical report currently being prepared by the US Army Construction Engineering Research Laboratory. The final report will discuss in much greater detail, the above testing methods, data requirements, and the procedure for conducting an acceptance test with consideration of field experience. When published, this report will be available through NTIS.

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TABLE 1 COMPARISON OF METHODS

Method	Heat Input	Heat Output	Heat Losses	Complexity	Advantages	Disadvantages	Recommendation
Input-Output	Yes	Yes	No	Simple	Direct Indication	No Indication of Problem Areas Waste Quality	Use for Small Units (<75 TPD)
Heat-Loss	Yes	No	Most	Moderate	Indicates Problems	Some Losses Estimated Waste Quality	Use as Diagnostic
Modified Heat-Loss (Short Form)	Yes	No	Some	Very Simple	Simplicity	Most Losses Estimated Waste Quality	Use only to Monitor Operation
Calorimeter Method	Aux. Fuel Waste Feed	Yes	All	Very Complex	Most Accurate Avoids Waste Quality	Complexity	Use for Large Units (>75 TPD)
Alternate Concept	Fossil Fuel Only	Optional	Optional	Moderate	Avoids Waste Quality	Special Provision for Aux. Burners	Allow for Special Cases

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# CALCULATING EFFICIENCY OF MUNICIPAL WASTE MASS BURNING ENERGY RECOVERY SYSTEMS

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## ABSTRACT

One of the questions on mass burning of municipal waste has been how much heat can be recovered from the waste. The answer must always be conditioned on the heating value of the waste. The problem is to determine that value. Every sample of waste will have different moisture, ash and chemical composition, which will calculate to different heating values. The practice in the U.S. is to use the high heat value in calculating energy production, which further complicates the question. Our suggestion is to use the furnace as the calorimeter to determine the heating value of the waste.

This is accomplished by measuring all the known inputs: waste quantity; combustion air; feedwater and cooling water; and all the known outputs: steam; blowdown; ash; radiation and flue gas. Flue gas  $O_2$ ,  $CO_2$ ,  $H_2O$  and S are measured and used to calculate a waste Btu content. Efficiency is calculated by dividing the net heat in steam by the calculated heat input.

## INTRODUCTION

One system of incineration has been proven by over 30 years of successful operation in Europe and, to a limited extent, in the U.S.: mass burning of unsorted waste on specially designed grate systems.

Specially designed waterwall boilers recover heat energy from the hot flue gases in the form of steam for district heating, process or electrical production. One of the questions on mass burning has been determining exactly how much heat can be recovered from the waste. The main problem is calculating the heating value of municipal waste. If 20 samples are taken, it is likely that 20 different heating values will result. Every sample of

waste will have different moisture, ash and chemical composition, which will calculate to different heating values.

The practice in the U.S. is to use the high heat value in calculating energy production, which further complicates the question. Two samples of waste may have similar high heat values (Table 1) but different moisture content and the resultant energy production (steaming rate) will vary significantly.

The steaming rate varies with the Btu content of the waste in a linear relationship over a range of about 3800 to 5200 Btu/lb kcal/kg (2100-29,000) assuming all other factors are equal. Below 4300 and above 5200, the ratio changes as indicated below:

HHV	3000 (1667)	4300 (2400)	4500 (2500)	5200 (2900)	6000 Btu/lb (3333 kcal/kg)
LHV	2400 (1333)		4270		5740 (3200 kcal/kg)
Steam Rate	1.25	2.20	2.31	2.67	3.20

Approximately the same amount of heat is lost through radiation of the boiler so lower Btu fuel would have a lower net steaming rate. Steaming rate would likewise vary inversely with the flue gas temperature, all other factors being equal.

Flue Gas Exhaust Temperature:	400°F (205°C)	374°F (190°C)
Steaming Rate (Net lb/lbs):	2.22	2.31

Finally, steaming rate varies with the percent furnace loading. Normally, mass burning furnaces will be run at

90 to 105 percent of rated capacity. Below 66 percent furnace loading, the boiler efficiency falls off rapidly to the point where it is not economically feasible to operate a furnace for energy recovery below 60 percent capacity.

The question is always asked: "What will the manufacturer guarantee as a steaming rate?" The answer must always be conditioned on the composition and heating value of the waste. The problem then is to determine those values. Our suggestion is to use the furnace as the calorimeter to determine the heating value of the waste.

Most furnace/boiler systems are designed for a total heat throughput or a maximum furnace capacity for waste at some specific heating value (Btu/lb or kcal/kg). The throughput may increase to some design overload if the heating value decreases and vice versa, so the maximum total heat throughput is not exceeded (Fig. 1).

#### PERFORMANCE GUARANTEES

Mass burning waste incinerator plants must meet specific performance guarantees, which are only partly within the dictates of the furnace/boiler and mostly a function of the waste processed.

Common guarantees are:

- (a) waste throughput, hourly, daily or yearly (should be based on some assumed heating value of the waste);
- (b) energy production (usually expressed as a factor of waste input (lb steam/lb waste) and contingent on an assumed composition and heat value of the waste);
- (c) maximum putrescibles and combustible material in residue (a better indication of furnace performance than total amount of residue, which is more a function of the waste);
- (d) maximum particulate emissions and other environmental factors.

We are concerned here with (a) and (b) and suggest a method for helping the supplier and customer to agree on how to determine if a system meets its guarantees.

#### ADJUSTMENTS TO OBSERVED THROUGHPUT CAPACITY AND ENERGY RECOVERY RATES

It is recognized that the refuse delivered to a mass burning facility for acceptance test purposes may not have the same composition as the reference processible waste and that throughput capacity and energy recovery are dependent upon the refuse composition, particularly its moisture content and heating value.

For example, the processing of lower Btu content than that of the reference waste will allow higher throughput rates but result in lower energy yield and may, therefore, appear to demonstrate higher throughput but lower per ton energy yields than that which would have been obtained had the plant been tested with reference processible

waste. Similarly, if the waste furnished for acceptance testing purposes has a higher Btu content than that of the reference waste, the demonstrated throughput capacity may be less than that which would have been obtained with reference processible waste but the per ton energy yield would be higher.

It is further recognized that it is difficult and economically unfeasible to obtain an accurate measurement of the heating value of the waste through sampling of the waste being processed during the acceptance test and impossible after it has been incinerated. It is therefore proposed that the combustion system be used as a calorimeter, following in general the principles for determining efficiency and capacity described in the ASME Power Test Code 4.1 for steam generating units (1964, reaffirmed 1979) and the ASME Performance Test Code 33 for large incinerators (1978). The abbreviated efficiency test (PTC 33a-1980, Appendix to ASME PTC 33) may be used to determine efficiency by the heat balance method.

The concept is to measure all the known inputs: fuel (waste) in pounds, combustion air flow and temperature, feedwater temperature and flow, and cooling water (to ash extractor) flow and temperature; and to measure all the outputs: steam flow, temperature and pressure, blow-down flow and temperature, ash quantity, temperature and carbon contents, and skin temperature (to calculate radiation).

We also measure flue gas temperature and flow so we know everything going in and coming out.

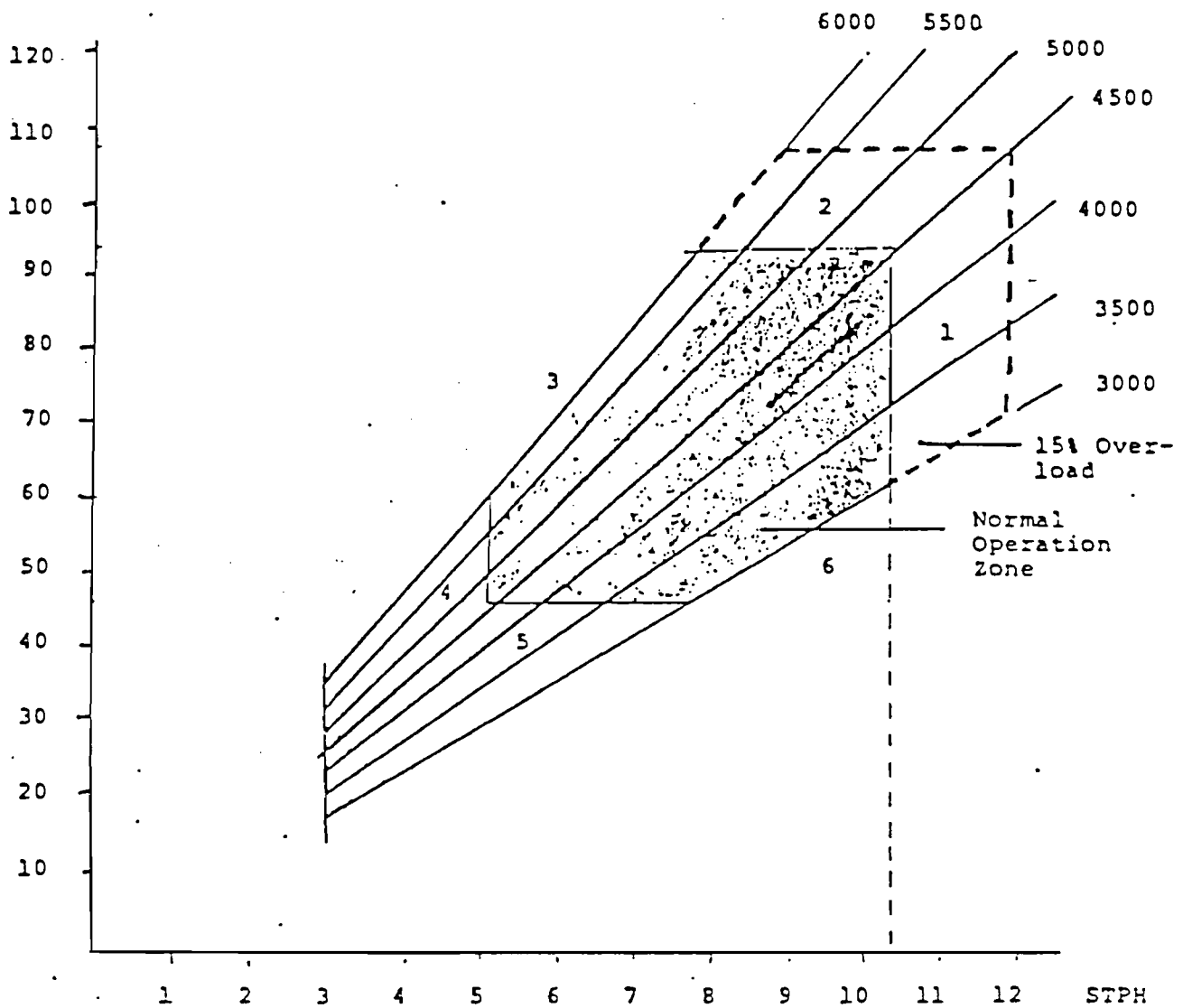
The flue gas is further analyzed to measure oxygen, carbon dioxide, water and sulphur and these figures are used to back into a waste analysis. Btu content is calculated from this analysis and compared with output to figure furnace/boiler efficiency. Given this calculated efficiency and, assuming that the efficiency obtained during the test, after appropriate corrections, would be the same as that which would have been obtained using reference processible waste, the throughput capacity and energy outputs observed in the test will be adjusted to reflect the difference between the calculated heating value of the test fuel and the assumed heating value of the reference processible waste.

#### SPECIFIC TEST PROCEDURES

##### INCINERATOR CAPACITY TEST

The purpose of this test is to demonstrate the ability of the boiler plant to handle and burn the guaranteed throughput of specified solid waste while staying within the limits of the specified normal operating grate temperatures and while meeting the guaranteed degree of burnout. This test should also give an indication regarding the reliability of

BTU/HR X 10<sup>6</sup>



- 1 Maximum MSW throughput (10.41 STPH)
- 2 Maximum heat release rate (94 X 10<sup>6</sup> BTU/HR)
- 3 Maximum expected caloric value (6000 BTU/LB)
- 4 Minimum MSW through (50% Max)
- 5 Minimum heat release rate (50% Max)
- 6 Minimum expected caloric value (3000 BTU/LB)

FIG. 1 TYPICAL FURNACE OPERATION DIAGRAM

the equipment and, therefore, each line should be run at full load for at least 7 days, after stabilization, without interruption. In the event of a breakdown, the test should be repeated. All equipment should operate during the test at its normal mode and capacity, and the maintenance force and supplies should be those proposed to be available during normal operation of the plant — all to demonstrate the availability of the plant under normal operating conditions.

The facility should be operated for a 7 day period, at the maximum rated capacity and process at least six times (85 percent) the rated daily tons of processible waste.

During the 7 day test period, the total residue from the combustion process should be measured and sampled. The composition of the residue should be determined by hourly samples taken during the 72 hr period when the Facility is processing a total of three times the daily rated tons of processible waste.

The residue sampling should be submitted to the independent engineer for analysis by an independent laboratory prior to the conclusion of the acceptance tests. As a minimum, the residue should be analyzed for moisture content, combustible matter and putrescible matter in accordance with PTC 33.

The facility shall not have been deemed to have passed the throughput capacity test, even though the tonnage processed meets the capacity requirements stated above, if the percentage of combustible and putrescible matter in the total residue exceeds the guaranteed percentages of combustible and putrescible matter.

If the results are not as guaranteed, the Contractor and Customer will likely not be able to agree that the waste processed was identical to the "standard" waste used for contract purposes. Twenty samples will likely result in twenty different results. And, of course, there is no way to sample the waste after it has been incinerated, which would normally be when a controversy would arise. A reasonable alternative is what we are proposing.

The heat balance method of determining efficiency as described herein may be used to calculate the heat value of the waste fired during the test period. If the facility does not meet the throughput capacity test, the demonstrated throughput capacity will be adjusted by the inverse ratio of the heat value of the waste actually processed to the heat value of the reference waste usually assumed to be 4500 Btu/lb HHV.

If this adjustment results in a throughput capacity meeting the guarantee, the facility will have been deemed to have passed the throughput capacity test. If the heat value of the waste fired is determined to have been below 3800 Btu/lb HHV, the waste supplied shall be considered as not representative of processible waste and the test will then be repeated at the customer's expense.

## ENERGY RECOVERY TEST

The energy recovery test will consist of a test of the steam raising rate and a test of the electric generation rate, if applicable. The test of the steam raising rate will establish whether the combustion process produces the guaranteed quantity of steam. The test of the electric generation rate will then determine whether the overall performance of the facility meets the guarantees as to energy recovery.

### Steam Raising Rate

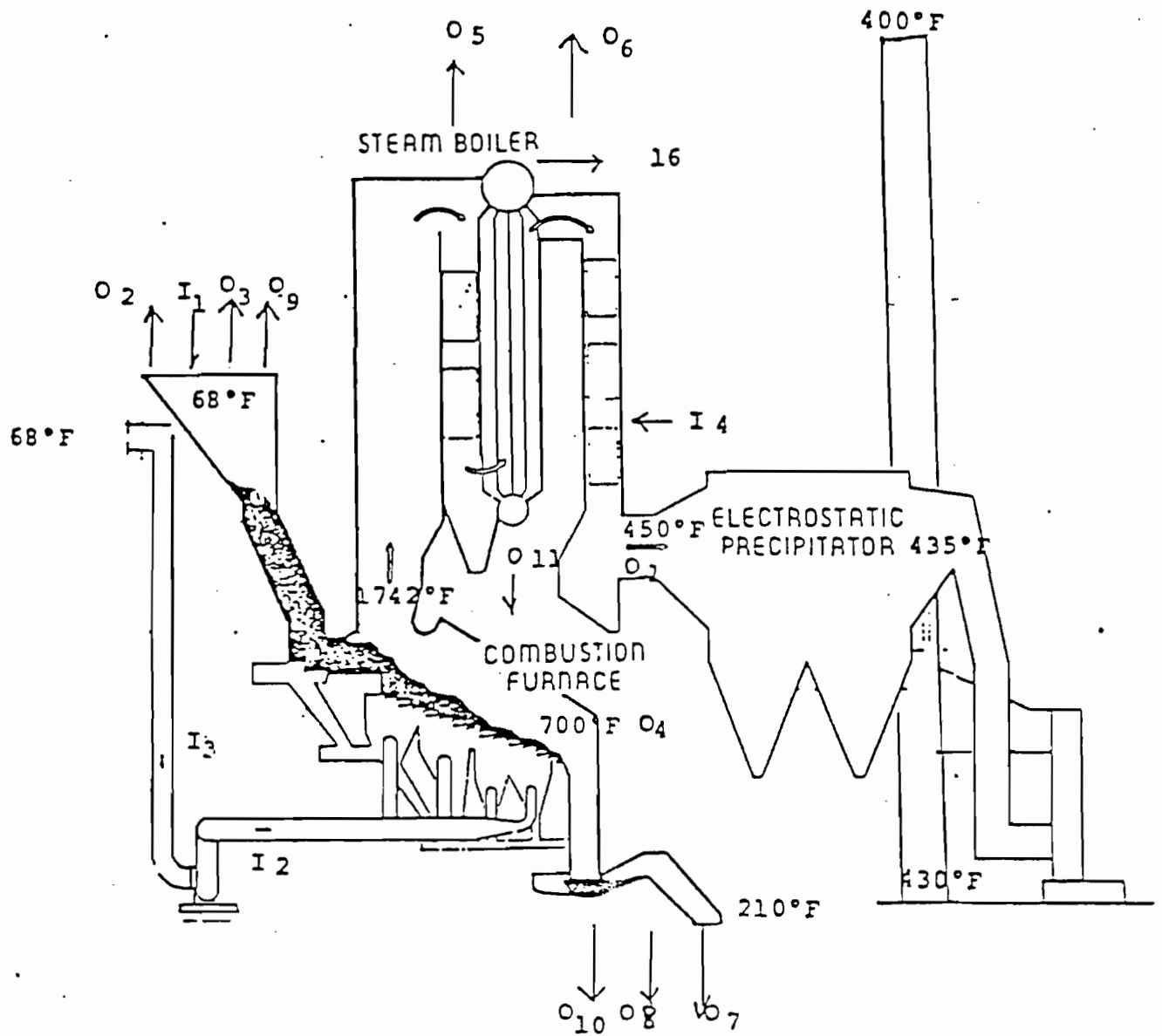
The purpose of this portion of the energy recovery test is to determine whether the facility meets the guaranteed steam raising rate, when processing solid waste, having the heating value of the reference solid waste, at a rate equal to the guaranteed daily throughput capacity under normal operating conditions as to boiler blowdown, exit gas temperatures and excess air ratio.

The test shall be conducted in accordance with the test codes referenced above, as modified herein, for the determination of heat outputs, credits and losses and the calculation of efficiency and fuel heating value by the heat balance method. For the purpose of determining the efficiency, steam output shall be measured at the superheater outlet and hot flue gases shall be measured at the inlet to the stack.

The test shall extend over an 8 hr test period. Pertinent test data shall be recorded at appropriate intervals, in accordance with the test code and shall include the following — all of which are relatively easy to measure with a high degree of accuracy:

- Processible waste feed rate (weight) and moisture
- Boiler outlet steam rate, temperature and pressure
- Feedwater rate and temperatures
- Desuperheater water rate, temperature and pressure (as applicable)
- Boiler drum pressure
- Flue gas rate and temperature at the stack inlet
- CO<sub>2</sub>, O<sub>2</sub>, SO<sub>2</sub> and H<sub>2</sub>O in the flue gas at the stack inlet by various EPA methods
- Residue and fly ash quantities, temperature and unburned carbon and sulfur content
- Barometric pressure
- Combustion air flow and temperatures
- Ambient wet/dry bulb temperatures
- Residue quench water quantity and temperature
- Moisture in residue (after quench)
- In-house steam consumption
- Steam quality — percent moisture or PPM
- Boiler blowdown rate and temperature
- Furnace boiler skin temperature and area

Test measurements should be taken from installed plant instruments which have been previously calibrated



$$\text{Efficiency} = \frac{\text{Net Heat in Steam} \times 100}{\text{Net Avail. Heat Input}}$$

FIG. 2 ENERGY BALANCE FURNACE BOILER SYSTEM

BEST AVAILABLE COPY

TABLE 1 STEAMING RATE

<u>Assumed Waste Composition</u>	<u>% Moisture</u>	
	<u>20%</u>	<u>25%</u>
Carbon	26.6	22.7
Hydrogen	3.4	4.3
Sulphur	0.2	0.2
Oxygen	25.4	22.6
Nitrogen	0.2	0.2
Moisture	20.0	25.0
Ash	24.2	25.0
High Heat Value	4502	4494 BTU/lb. (2500 KCAL/
Gas Temperature	1742	1742° F. (950° C.) KG
Excess Air	1.3882	1.2503
O <sub>2</sub> -Stoichiometric	0.6925	0.6870 lb./lb.
Total Air	7.1445	6.6775 lb./lb.
O <sub>2</sub>	0.9614	0.8589 lb./lb.
CO <sub>2</sub>	0.9320	0.7875 lb./lb.
H <sub>2</sub> O	0.5273	0.6585 lb./lb.
N <sub>2</sub>	5.4925	5.1337 lb./lb.
Flue Gas	7.9132	7.4386 lb./lb.
Exhaust Temperature	374° F.	374° F. (190° C.)
Steam Temperature	750° F.	750° F. (400° C.)
Steam Pressure	600 psi	600 psi (41 ATA)
Make-Up Water Temperature	250° F.	250° F. (121° C.)
Steaming Rate, lb.steam/ lb.waste	2.31	2.22

and agreed accurate by the independent engineer. Special portable instrumentation may also be used where required and agreed upon.

Utilizing the test data and measurements from the test, calculations will be made in accordance with the ASME test codes as modified herein, for the determination of boiler heat losses, heat outputs and heat credits (Fig. 2 and Table 2).

#### METHOD OF DETERMINING SOLID WASTE HIGH HEATING VALUE

With the information accurately obtained during the performance test, the high heating value of the solid waste can be calculated. In order to simplify the method of calculation and the test procedure, the ultimate analysis of the waste will be assumed to consist of only the major components:

- Carbon – Carbon content of the waste is calculated from the percentage of carbon dioxide in the flue gas and the percentage of carbon in the residue.
- Sulfur – Sulfur content of the waste is calculated from the percentage of sulfur dioxide in the flue gas and the percentage of sulfur in the ash.
- Hydrogen – Hydrogen is determined from the amount of moisture in the flue gas taking into account the moisture in the waste, combustion air and ash quench vapor.
- Nitrogen – Nitrogen is an assumed value agreed upon before the test. The nitrogen content of the refuse is very small and will have very little effect on the high heating value of the waste.
- Moisture – Moisture content is determined from samples taken during the performance tests.
- Ash – Ash content is determined from the total residue produced during the test less the moisture, sulfur and carbon contained in the ash.



TABLE 2 REFUSE-FIRED BOILER ENERGY BALANCE

Item	Heat Loss	BTU/LB <sub>R</sub>	BTUX10 <sup>6</sup> /DAY
01.	Heat loss due to dry gas. Dry flue gas LB/LB <sub>R</sub> x specific heat x (exit gas temp. - ambient air temp.) 6.791 LB/LB <sub>R</sub> x .254 Btu/Lb. °F. (400°F-70°F).	569.2	170.8
02.	Heat loss due to moisture in fuel = (Enthalpy of vapor at 1.0 PSIA @ exit gas temp. - enthalpy of liquid @ ambient air temp.) x moisture in the fuel LB/LB <sub>R</sub> (.2119 LB/LB <sub>R</sub> x (1240 Btu/LB-48 Btu/LB)).	252.6	75.8
03.	Heat loss due to H <sub>2</sub> O from comb. of H <sub>2</sub> = 9 x hydrogen in fuel LB/LB <sub>R</sub> (Enthalpy of vapor - enthalpy of liquid) 9 x .0338 x (1240-48).	362.6	108.8
04.	Heat loss due to combustibles in residue Carbon in residue x 14.500 Btu/LB .0136 x 14.500 Btu/LB.	197.2	59.2
05.	Heat loss due to radiation (ABMA Chart).	45.0	13.5
06.	Unaccounted for losses.	55.0	16.5
07.	Heat loss in residue. Dry residue including unburned carbon x (specific heat of residue) x (residue temp. leaving furnace - residue temp. after quench) .2730 LB/LB <sub>R</sub> x .25 Btu/LB °F. x (700°F-210°F).	33.4	10.0
08.	Heat loss due to moisture in residue. Moisture content of residue x (temp. @ residue leaving quench - temp. of water entering quench) 15/100 (.2730 LB/LB <sub>R</sub> ) (210°F.-70°F.) x 1 Btu/LB °F.	5.7	1.7
09.	Heat loss due to moisture in air. Total dry air required based on fuel rate x moisture in air x specific heat of air x exit gas temp.-inlet air temp.) (0.5583 LB/LB <sub>R</sub> x .013 LB <sub>water</sub> /LB <sub>air</sub> x 0.429 BTU/LB °F. (400°F-70°F).	12.1	3.6
010.	Heat loss due to quench vapor. (Heat loss in dry residue ÷ latent heat of vapor @ atmospheric pressure) x (enthalpy of vapor entering boiler-enthalpy of vapor entering furnace. (33.44 Btu/LB ÷ 970.4 Btu/LB) x (1240 Btu/LB-970.4 Btu/LB).	9.3	2.8

TABLE 2 REFUSE-FIRED BOILER ENERGY BALANCE (CONT'D.)

<u>Item</u>	<u>Heat Loss</u>	<u>BTU/LB<sub>R</sub></u>	<u>BTUX10<sup>6</sup>/DAY</u>
011.	Heat loss due to blowdown. Estimated steam production x specific heat of steam @ 150 PSIG sat. x blowdown rate. 2.8 LB/LB <sub>R</sub> x 1196 Btu/LBS x 3%	106.5	32
		<u>1648.6</u>	<u>494.6</u>
	<u>Heat Input</u>		
I1.	Fuel heat input. HHV of refuse.	4500	1350
I2.	Dry air heat input. Total dry air required based on fuel rate x specific heat of air x (ambient air temp. - 32°F.) 6.5583 LB/LB <sub>R</sub> x .24 Btu/LB°F. x (70°F. - 32°F.).	59.81	17.9
I3	Heat input due to moisture in air. Moisture in air x specific heat of water vapor (ambient air temp. - 32°F.). 6.5583 LB/LB <sub>R</sub> x .013 LB/LB <sub>air</sub> x .489 Btu/LB°F. (70°F. - 32°F.).	1.6	.5
I4.	Enthalpy of feedwater entering boiler (Feedwater temp. - 32°F.) x specific heat of water x lbs. of water/lb. of refuse. (250°F. - 32°F.) x 1 Btu/LB°F x 2.884 LB <sub>w</sub> /LB <sub>R</sub>	628.7	188.6
		<u>5190.1</u>	<u>1557.0</u>
	<u>Steam Production</u>		
S1.	Heat absorbed in steam. (Items I1 + I2 + I3 + I4) - (Items 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11) (4500 + 59.81 + 1.6 + 628.7) - (569.2 + 252.6 + 362.6 + 197.2 + 45.0 + 55.0 + 33.4 + 5.7 + 12.1 + 9.3 + 106.5). 5190.11 - 1648.6.	3541.5	1062.4
		<u>LB<sub>S</sub>/LB<sub>R</sub></u>	
	Steaming Rate. Item S1. ÷ enthalpy of lbs. Steam @ 150 PSIG 465°F. 3529.4 ÷ 1254.	2.82	

TABLE 3 SAMPLE FUEL HEATING VALUE DETERMINATION

DATA FROM PERFORMANCE TEST

Flue Gas

CO<sub>2</sub> - 11.19% by wt.  
 H<sub>2</sub>O - 8.90% " "  
 O<sub>2</sub> - 11.55% " "  
 SO<sub>2</sub> - 0.20% " "  
 Flow - 155,675 lbs./hr.  
 Temp. - 400° F.

Ash

Weight - 5,515 lbs./hr.  
 C - 5.0% by wt.  
 S - .1% " "  
 Temp. - 210° F.  
 Mois. - 15% by wt.

Combustion Air

Flow - 140,067 lbs.  
 Temp. - 70° F.

Refuse

Weight - 20,200 lbs.  
 Moisture - 27.74% by wt.

Ash Cooling Water

Temp. - 70° F.  
 Flow - 957 lbs./hr.

TABLE 3 SAMPLE FUEL HEATING VALUE DETERMINATION (CONTINUED)

DETERMINATION OF ULTIMATE ANALYSIS OF REFUSE

<u>Item</u>	<u>Lbs./Lb. Refuse</u>
1	
<u>Carbon Content</u>	
<u>% CO<sub>2</sub> Flue Gas X Lb./Hr. Flue Gas X Lb.<sub>c</sub>/CO<sub>2</sub></u>	
Lbs. Refuse	
+ <u>% C<sub>Ash</sub> X Lb. Ash Dry</u>	
Lbs. Refuse	
<u>.1179 X 155,675 X .2732 + .08 X 4687</u>	.2472
20,200                      20,200	
2	
<u>Hydrogen Content</u>	
H <sub>2</sub> O from H <sub>2</sub> Comb. = H <sub>2</sub> O Flue Gas -	
H <sub>2</sub> O Refuse - H <sub>2</sub> O Ash Vapor - H <sub>2</sub> O Comb. Air	
H <sub>2</sub> O Flue Gas = <u>% H<sub>2</sub>O<sub>FC</sub> X Lb.<sub>FC</sub></u>	
Lbs. Refuse	
= <u>.0890 X 155.675 = .6859</u>	
20,200	
H <sub>2</sub> O Comb. Air. = <u>Lb. Comb. Air X Lb. H<sub>2</sub>O/Lb. Ash</u>	
Lb. Refuse	
= <u>140,067 X .013 = .090</u>	
20,200	
H <sub>2</sub> O Ash Vap. = <u>Cooling Water Flow - % Mois. in Ash X Lb. Ash</u>	
Lb. Refuse                      Lb. Refuse	
= <u>957 - .15 X 5155 = .007</u>	
20,200                      20,200	
H <sub>2</sub> O Refuse = Lb. H <sub>2</sub> O/Lb. Refuse.	
= .2774	

TABLE 3 SAMPLE FUEL HEATING VALUE DETERMINATION (CONTINUED)

DETERMINATION OF ULTIMATE ANALYSIS OF REFUSE CONT'D.

<u>Item</u>	<u>Lbs./Lb. Refuse</u>
2	
H <sub>2</sub> O from H <sub>2</sub> Comb. = .6859 - .090 - .007 - .2774	
= .3115	
Convert to Lb. H per Lb. Refuse	
H = Lb. H <sub>2</sub> O X Lb. H/Lb. H <sub>2</sub> O	
= .3115 X .1188	.03484
3	
<u>Sulfur Content</u>	
$\frac{\% \text{ SO}_2 \times \text{Lb. Refuse}}{\text{Lb. Refuse}} \times \text{Lb. S/Lb. SO}_2 + \frac{\% \text{ S}_{\text{Ash}} \times \text{Lb. Ash}}{\text{Lb. Refuse}}$	
$\frac{.002 \times 155,675 \times .5}{20,200} + \frac{.0024 \times 4682}{20,200}$	.0011
4	
<u>Moisture Content</u>	.2774
5	
<u>Nitrogen Content (Est. Value)</u>	.0060
6	
<u>Ash Content</u>	
= Residue - H <sub>2</sub> O <sub>Refuse</sub> - C <sub>Ash</sub> - S <sub>Ash</sub>	
= $\frac{5515}{20,200} - \frac{.15 \times 5515}{20,200} - \frac{.05 \times 5515}{20,200} - \frac{.001 \times 5515}{20,200}$	.21817
7	
<u>Oxygen Content</u>	
1.00 - (Items) + 2 + 3 + 4 + 5 + 6) =	
1.00 - (.2472 + .03483 + .0011 + .2774 + .0060 + .2183)	.21529
	1.000

TABLE 3 SAMPLE FUEL HEATING VALUE DETERMINATION (CONTINUED)

DETERMINATION OF HIGH HEATING VALUE  
OF SOLID WASTE BY BOJE FORMULA

		<u>Weight Fraction</u>	<u>Btu/Lb.</u>	<u>HHV</u>
1	C	.2472	14,976	3702
2	H	.03484	49,374	1720
3	S	.0011	4,500	5
4	Moisture	.2774	-	
5	N	.0060	2,700	16
6	Ash	.21817	-	-
7	O	.21529	- 4,644	- <u>1000</u>
				4443 Btu/Lb.

• Oxygen — Oxygen content is taken as the remaining component of the refuse after all values have been calculated.

Neglecting the other minor components in the waste will result in a relatively small error in the high heating value calculation.

After the calculated analysis of the solid waste is determined, the heating value can be calculated using the BOJE formula.

This method of determination of heating values makes a number of assumptions and the results are contingent upon good testing methods.

The results reflect an accurate representation of the solid waste during the test period without the elaborate sampling and testing methods needed to do an accurate and representative chemical analysis of this waste.

#### SUMMARY

Calculating efficiency of municipal waste mass burning energy recovery systems by measuring the output of the system and basically using the furnace as a calorimeter seems to be reasonable and more accurate than trying to determine the precise composition of refuse by sorting and analysis.

Key Words: Calorific value • Efficiency • Energy • Furnace • Performance • Steam • Testing

All measurements are practical, timely and appropriate to the fuel actually used. Calculations are mathematically accurate and scientifically correct. This method actually answers more questions and leaves less to chance than any previously suggested procedure. More improvements will likely be found, but this seems to be a good place to start.

#### ACKNOWLEDGMENTS

1982 National Waste Processing Conference Proceedings, various papers.

#### REFERENCES

- [1] *Steam/Its Generation and Use*, The Babcock & Wilcox Company, 1978.
- [2] *Handbook of Solid Waste Management*, David Gordon Wilson, 1977.
- [3] *Steam Generating Units — Power Test Codes*, ASME PTC 4.1, 1964.
- [4] *Industrial Guide for Air Pollution Control*, EPA Handbook.
- [5] *Predicting & Testing Incinerator-Boiler Efficiency. A Proposed Short Form Method in Line with the ASME Test Code PTC-33*, Georg Stabenow, 1980.
- [6] *Large Incinerators*, ASME, PTC 33-1978.

**Appendix A-1,**  
**Abbreviations, Definitions, Citations, and Identification Numbers**  
**(Version Dated 2/5/97)**



## Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers (version dated 02/05/97)

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### Abbreviations and Acronyms:

°F: Degrees Fahrenheit  
**BACT:** Best Available Control Technology  
**CFR:** Code of Federal Regulations  
**DEP:** State of Florida, Department of Environmental Protection  
**DARM:** Division of Air Resource Management  
**EPA:** United States Environmental Protection Agency  
**F.A.C.:** Florida Administrative Code  
**F.S.:** Florida Statute  
**ISO:** International Standards Organization  
**LAT:** Latitude  
**LONG:** Longitude  
**MMBtu:** million British thermal units  
**MW:** Megawatt  
**ORIS:** Office of Regulatory Information Systems  
**SOA:** Specific Operating Agreement  
**UTM:** Universal Transverse Mercator

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### Citations:

*The following examples illustrate the methods used in this permit to abbreviate and cite the references of rules, regulations, guidance memorandums, permit numbers, and ID numbers.*

#### Code of Federal Regulations:

*Example:* [40 CFR 60.334]

Where:	40	reference to	Title 40
	CFR	reference to	Code of Federal Regulations
	60	reference to	Part 60
	60.334	reference to	Regulation 60.334

#### Florida Administrative Code (F.A.C.) Rules:

*Example:* [Rule 62-213, F.A.C.]

Where:	62	reference to	Title 62
	62-213	reference to	Chapter 62-213
	62-213.205	reference to	Rule 62-213.205, F.A.C.

**ISO:** International Standards Organization refers to those conditions at 288 degrees K, 60 percent relative humidity, and 101.3 kilopascals pressure.

**Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers  
(version dated 02/05/97) (continued)**

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**Identification Numbers:**

Facility Identification (ID) Number:

*Example:* Facility ID No.: 1050221

*Where:*

105 = 3-digit number code identifying the facility is located in Polk County  
0221 = 4-digit number assigned by state database.

Permit Numbers:

*Example:* 1050221-002-AV, or  
1050221-001-AC

*Where:*

AC = Air Construction Permit  
AV = Air Operation Permit (Title V Source)  
105 = 3-digit number code identifying the facility is located in Polk County  
0221 = 4-digit number assigned by permit tracking database  
001 or 002 = 3-digit sequential project number assigned by permit tracking database

*Example:* PSD-FL-185  
PA95-01  
AC53-208321

*Where:*

PSD = Prevention of Significant Deterioration Permit  
PA = Power Plant Siting Act Permit  
AC = old Air Construction Permit numbering

**Appendix H-1, Permit History / ID Number Transfers**

## Appendix H-1, Permit History/ID Number Changes

Wheelabrator North Broward, Inc.  
North Broward Waste-to-Energy Facility

Facility ID No.: 0112120

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**Permit History (for tracking purposes):**

<u>E.U. ID No.</u>	<u>Description</u>	<u>Permit No.</u>	<u>Issue Date</u>	<u>Expiration Date</u>	<u>ExtendedDate<sup>1,2</sup></u>	<u>Revised Date(s)</u>
001, 002, 003	Municipal Solid Waste Combustors	PSD-FL-112	07/28/87			02/09/89; 05/22/97; 09/28/99
		PA 86-22	03/09/87			04/12/88; 02/01/89; 10/04/91; 11/30/92
004	Lime Silo	AC06-186998	03/12/91	02/28/92		
		AO06-208187	05/14/92	02/28/96		
005	Ash Handling System	AC06-186997	03/12/91	02/28/92		
		AO06-208187	05/14/92	02/28/96		

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**(if applicable) ID Number Changes (for tracking purposes):**

From: Facility ID No.: 30BRO062120

To: Facility ID No.: 0112120

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Notes:

1 - AO permit(s) automatic extension(s) in Rule 62-210.300(2)(a)3.a., F.A.C., effective 03/21/96.

2 - AC permit(s) automatic extension(s) in Rule 62-213.420(1)(a)4., F.A.C., effective 03/20/96.

{Rule 62-213.420(1)(b)2., F.A.C., allows Title V Sources to operate under existing valid permits that were in effect at the time of application until the Title V permit becomes effective}

**Appendix SS-1,**  
**Stack Sampling Facilities (version dated 10/7/96)**

## APPENDIX SS-1, STACK SAMPLING FACILITIES (version dated 10/07/96)

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Stack Sampling Facilities Provided by the Owner of an Emissions Unit. This section describes the minimum requirements for stack sampling facilities that are necessary to sample point emissions units. Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. Emissions units must provide these facilities at their expense. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

(a) Permanent Test Facilities. The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.

(b) Temporary Test Facilities. The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the Department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the Department and remain on the emissions unit until the test is completed.

(c) Sampling Ports.

1. All sampling ports shall have a minimum inside diameter of 3 inches.

2. The ports shall be capable of being sealed when not in use.

3. The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.

4. For emissions units for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For emissions units for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.

5. On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.

(d) Work Platforms.

1. Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.

2. On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.

3. On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.

4. All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toeboard, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.

(e) Access to Work Platform.

**APPENDIX SS-1, STACK SAMPLING FACILITIES (version dated 10/07/96)**  
**(continued)**

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1. Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.

2. Walkways over free-fall areas shall be equipped with safety rails and toeboards.

**(f) Electrical Power.**

1. A minimum of two 120-volt AC, 20-amp outlets shall be provided at the sampling platform within 20 feet of each sampling port.

2. If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

**(g) Sampling Equipment Support.**

1. A three-quarter inch eyebolt and an angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.

a. The bracket shall be a standard 3 inch x 3 inch x one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter shall be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket shall be located 14 inches above the centerline of the sampling port.

b. A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required bracket. The bolt shall be located 15 and one-half inches above the centerline of the sampling port.

c. The three-quarter inch eyebolt shall be capable of supporting a 500 pound working load. For stacks that are less than 12 feet in diameter, the eyebolt shall be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt shall be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.

2. A complete monorail or dualrail arrangement may be substituted for the eyebolt and bracket.

3. When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

[Rule 62-297.310(6), F.A.C.]

**Appendix TV-3,**  
**Title V Conditions (version dated 04/30/99)**

Permitting note: Appendix TV-3, Title V Conditions is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided one copy when requested or otherwise appropriate. If desired, a copy of Appendix TV-3, Title V Conditions can be downloaded from the Division of Air Resources Management's Internet Web site located at either of the following addresses:

“<http://www.dep.state.fl.us/air/permitting/TitleVperm.htm>”



## APPENDIX TV-3, TITLE V CONDITIONS (version dated 04/30/99)

[Note: This attachment includes "canned conditions" developed from the "Title V Core List."]

{Permitting note: APPENDIX TV-3, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided one copy when requested or otherwise appropriate.}

### Chapter 62-4, F.A.C.

1. **Not federally enforceable. General Prohibition.** Any stationary installation which will reasonably be expected to be a source of pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by the Department, unless the source is exempted by Department rule. The Department may issue a permit only after it receives reasonable assurance that the installation will not cause pollution in violation of any of the provisions of Chapter 403, F.S., or the rules promulgated thereunder. A permitted installation may only be operated, maintained, constructed, expanded or modified in a manner that is consistent with the terms of the permit.

[Rule 62-4.030, Florida Administrative Code (F.A.C.); Section 403.087, Florida Statute (F.S.)]

### 2. **Not federally enforceable. Procedure to Obtain Permits: Application.**

(1) Any person desiring to obtain a permit from the Department shall apply on forms prescribed by the Department and shall submit such additional information as the Department by law may require.

(2) All applications and supporting documents shall be filed in quadruplicate with the Department.

(3) To ensure protection of public health, safety, and welfare, any construction, modification, or operation of an installation which may be a source of pollution shall be in accordance with sound professional engineering practices pursuant to Chapter 471, F.S. All applications for a Department permit shall be certified by a professional engineer registered in the State of Florida except when the application is for renewal of an air pollution operation permit at a minor facility as defined in Rule 62-210.200, F.A.C., or where professional engineering is not required by Chapter 471, F.S. Where required by Chapter 471 or 492, F.S., applicable portions of permit applications and supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them.

(4) Processing fees for air construction permits shall be in accordance with Rule 62-4.050(4), F.A.C.

(5)(a) To be considered by the Department, each application must be accompanied by the proper processing fee. The fee shall be paid by check, payable to the Department of Environmental Protection. The fee is non-refundable except as provided in Section 120.60, F.S., and in this section.

(c) Upon receipt of the proper application fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin.

(d) If the applicant does not submit the required fee within ten days of receipt of written notification, the Department shall either return the unprocessed application or arrange with the applicant for the pick up of the application.

(e) If an applicant submits an application fee in excess of the required fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin upon receipt, and the Department shall refund to the applicant the amount received in excess of the required fee.

(6) Any substantial modification to a complete application shall require an additional processing fee determined pursuant to the schedule set forth in Rule 62-4.050, F.A.C., and shall restart the time requirements of Sections 120.60 and 403.0876, F.S. For purposes of this Subsection, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review.

(7) Modifications to existing permits proposed by the permittee which require substantial changes in the existing permit or require substantial evaluation by the Department of potential impacts of the proposed modifications shall require the same fee as a new application.

[Rule 62-4.050, F.A.C.]

3. **Standards for Issuing or Denying Permits.** Except as provided at Rule 62-213.460, F.A.C., the issuance of a permit does not relieve any person from complying with the requirements of Chapter 403, F.S., or Department rules.

[Rule 62-4.070(7), F.A.C.]

4. Modification of Permit Conditions.

(1) For good cause and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions and on application of the permittee the Department may grant additional time. For the purpose of this section, good cause shall include, but not be limited to, any of the following: (also, see Condition No. 38)

- (a) A showing that an improvement in effluent or emission quality or quantity can be accomplished because of technological advances without unreasonable hardship.
- (b) A showing that a higher degree of treatment is necessary to effect the intent and purpose of Chapter 403, F.S.
- (c) A showing of any change in the environment or surrounding conditions that requires a modification to conform to applicable air or water quality standards.
- (e) Adoption or revision of Florida Statutes, rules, or standards which require the modification of a permit condition for compliance.

(2) A permittee may request a modification of a permit by applying to the Department.

(3) A permittee may request that a permit be extended as a modification of the permit. Such a request must be submitted to the Department in writing before the expiration of the permit. Upon timely submittal of a request for extension, unless the permit automatically expires by statute or rule, the permit will remain in effect until final agency action is taken on the request. For construction permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that, upon completion, the extended permit will comply with the standards and conditions required by applicable regulation. For all other permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that the extended permit will comply with the standards and conditions applicable to the original permit. A permit for which the permit application fee was prorated in accordance with Rule 62-4.050(4)(1), F.A.C., shall not be extended. In no event shall a permit be extended or remain in effect longer than the time limits established by statute or rule.

[Rule 62-4.080, F.A.C.]

5. Renewals. Prior to one hundred eighty (180) days before the expiration of a permit issued pursuant to Chapter 62-213, F.A.C., the permittee shall apply for a renewal of a permit using forms incorporated by reference in the specific rule chapter for that kind of permit. A renewal application shall be timely and sufficient. If the application is submitted prior to 180 days before expiration of the permit, it will be considered timely and sufficient. If the renewal application is submitted at a later date, it will not be considered timely and sufficient unless it is submitted and made complete prior to the expiration of the operation permit. When the application for renewal is timely and sufficient, the existing permit shall remain in effect until the renewal application has been finally acted upon by the Department or, if there is court review of the Department's final agency action, until a later date is required by Section 120.60, F.S., provided that, for renewal of a permit issued pursuant to Chapter 62-213, F.A.C., the applicant complies with the requirements of Rules 62-213.420(1)(b)3. and 4., F.A.C.

[Rule 62-4.090(1), F.A.C.]

6. Suspension and Revocation.

(1) Permits shall be effective until suspended, revoked, surrendered, or expired and shall be subject to the provisions of Chapter 403, F.S., and rules of the Department.

(2) Failure to comply with pollution control laws and rules shall be grounds for suspension or revocation.

(3) A permit issued pursuant to Chapter 62-4, F.A.C., shall not become a vested property right in the permittee. The Department may revoke any permit issued by it if it finds that the permit holder or the permit holder's agent:

- (a) Submitted false or inaccurate information in application or operational reports.
- (b) Has violated law, Department orders, rules or permit conditions.
- (c) Has failed to submit operational reports or other information required by Department rules.
- (d) Has refused lawful inspection under Section 403.091, F.S.

[Rule 62-4.100, F.A.C.]

7. Not federally enforceable. Financial Responsibility. The Department may require an applicant to submit proof of financial responsibility and may require the applicant to post an appropriate bond to guarantee compliance with the law and Department rules.

[Rule 62-4.110, F.A.C.]

8. Transfer of Permits.

- (1) Within 30 days after the sale or legal transfer of a permitted facility, an "Application for Transfer of Permit" (DEP Form 62-1.201(1)) must be submitted to the Department. This form must be completed with the notarized signatures of both the permittee and the proposed new permittee.
- (2) The Department shall approve the transfer of a permit unless it determines that the proposed new permittee cannot provide reasonable assurances that conditions of the permit will be met. The determination shall be limited solely to the ability of the new permittee to comply with the conditions of the existing permit, and it shall not concern the adequacy of these permit conditions. If the Department proposes to deny the transfer, it shall provide both the permittee and the proposed new permittee a written objection to such transfer together with notice of a right to request a Chapter 120, F.S., proceeding on such determination.
- (3) Within 30 days of receiving a properly completed Application for Transfer of Permit form, the Department shall issue a final determination. The Department may toll the time for making a determination on the transfer by notifying both the permittee and the proposed new permittee that additional information is required to adequately review the transfer request. Such notification shall be served within 30 days of receipt of an Application for Transfer of Permit form, completed pursuant to Rule 62-4.120(1), F.A.C. If the Department fails to take action to approve or deny the transfer within 30 days of receipt of the completed Application for Transfer of Permit form, or within 30 days of receipt of the last item of timely requested additional information, the transfer shall be deemed approved.
- (4) The permittee is encouraged to apply for a permit transfer prior to the sale or legal transfer of a permitted facility. However, the transfer shall not be effective prior to the sale or legal transfer.
- (5) Until this transfer is approved by the Department, the permittee and any other person constructing, operating, or maintaining the permitted facility shall be liable for compliance with the terms of the permit. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations occurring prior to the sale or legal transfer of the facility.

[Rule 62-4.120, F.A.C.]

9. Plant Operation-Problems. If the permittee is temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the permittee shall immediately notify the Department. Notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with Department rules. (also, see Condition No. 10)

[Rule 62-4.130, F.A.C.]

10. For purposes of notification to the Department pursuant to Condition No. 9, Condition No. 12(8), and Rule 62-4.130, F.A.C., Plant Operation-Problems, "immediately" shall mean the same day, if during a workday (i.e., 8:00 a.m. - 5:00 p.m.), or the first business day after the incident, excluding weekends and holidays; and, for purposes of 40 CFR 70.6(a)(3)(iii)(B), "prompt" shall have the same meaning as "immediately". [also, see Conditions Nos. 9 and 12(8)]

[40 CFR 70.6(a)(3)(iii)(B)]

11. **Not federally enforceable.** Review. Failure to request a hearing within 14 days of receipt of notice of proposed or final agency action on a permit application or as otherwise required in Chapter 62-103, F.A.C., shall be deemed a waiver of the right to an administrative hearing.

[Rule 62-4.150, F.A.C.]

12. Permit Conditions. All permits issued by the Department shall include the following general conditions:

- (1) The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- (2) This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- (3) As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.

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- (4) This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- (5) This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of F.S. and Department rules, unless specifically authorized by an order from the Department.
- (6) The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- (7) The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
- (a) Have access to and copy any records that must be kept under conditions of the permit;
  - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and,
  - (c) Sample or monitor any substances or parameters at any location reasonable necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.
- (8) If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information: (also, see Condition No. 10)
- (a) A description of and cause of noncompliance; and,
  - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
- (9) In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the F.S. or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- (10) The permittee agrees to comply with changes in Department rules and F.S. after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by F.S. or Department rules.
- (11) This permit is transferable only upon Department approval in accordance with Rule 62-4.120, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- (12) This permit or a copy thereof shall be kept at the work site of the permitted activity.
- (14) The permittee shall comply with the following:
- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least five (5) years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - (c) Records of monitoring information shall include:
    1. the date, exact place, and time of sampling or measurements;
    2. the person responsible for performing the sampling or measurements;
    3. the dates analyses were performed;
    4. the person responsible for performing the analyses;
    5. the analytical techniques or methods used; and,
    6. the results of such analyses.
- (15) When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.
- [Rules 62-4.160 and 62-213.440(1)(b), F.A.C.]

13. Construction Permits.

(1) No person shall construct any installation or facility which will reasonably be expected to be a source of air or water pollution without first applying for and receiving a construction permit from the Department unless exempted by statute or Department rule. In addition to the requirements of Chapter 62-4, F.A.C., applicants for a Department Construction Permit shall submit the following as applicable:

- (a) A completed application on forms furnished by the Department.
- (b) An engineering report covering:
  - 1. plant description and operations,
  - 2. types and quantities of all waste material to be generated whether liquid, gaseous or solid,
  - 3. proposed waste control facilities,
  - 4. the treatment objectives,
  - 5. the design criteria on which the control facilities are based, and,
  - 6. other information deemed relevant.

Design criteria submitted pursuant to Rule 62-4.210(1)(b)5., F.A.C., shall be based on the results of laboratory and pilot-plant scale studies whenever such studies are warranted. The design efficiencies of the proposed waste treatment facilities and the quantities and types of pollutants in the treated effluents or emissions shall be indicated. Work of this nature shall be subject to the requirements of Chapter 471, F.S. Where confidential records are involved, certain information may be kept confidential pursuant to Section 403.111, F.S.

- (c) The owners' written guarantee to meet the design criteria as accepted by the Department and to abide by Chapter 403, F.S. and the rules of the Department as to the quantities and types of materials to be discharged from the installation. The owner may be required to post an appropriate bond or other equivalent evidence of financial responsibility to guarantee compliance with such conditions in instances where the owner's financial resources are inadequate or proposed control facilities are experimental in nature.

(2) The construction permit may contain conditions and an expiration date as determined by the Secretary or the Secretary's designee.

(3) When the Department issues a permit to construct, the permittee shall be allowed a period of time, specified in the permit, to construct, and to operate and test to determine compliance with Chapter 403, F.S., and the rules of the Department and, where applicable, to apply for and receive an operation permit. The Department may require tests and evaluations of the treatment facilities by the permittee at his/her expense.

[Rule 62-4.210, F.A.C.]

14. **Not federally enforceable.** Operation Permit for New Sources. To properly apply for an operation permit for new sources, the applicant shall submit certification that construction was completed noting any deviations from the conditions in the construction permit and test results where appropriate.

[Rule 62-4.220, F.A.C.]

Chapters 28-106 and 62-110, F.A.C.

15. Public Notice, Public Participation, and Proposed Agency Action. The permittee shall comply with all of the requirements for public notice, public participation, and proposed agency action pursuant to Rule 62-110.106 and Rule 62-210.350, F.A.C.

[Rules 62-110.106, 62-210.350 and 62-213.430(1)(b), F.A.C.]

16. Administrative Hearing. The permittee shall comply with all of the requirements for a petition for administrative hearing or waiver of right to administrative proceeding pursuant to Rules 28-106.201, 28-106.301 and 62-110.106, F.A.C.

[Rules 28-106.201, 28-106.301 and 62-110.106, F.A.C.]

Chapter 62-204, F.A.C.

17. Asbestos. This permit does not authorize any demolition or renovation of the facility or its parts or components which involves asbestos removal. This permit does not constitute a waiver of any of the requirements of Chapter 62-257, F.A.C., and 40 CFR Part 61, Subpart M, National Emission Standard for Asbestos, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Compliance with Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, Section 61.145, is required for any asbestos demolition or renovation at the source.

[40 CFR 61; Rule 62-204.800, F.A.C.; and, Chapter 62-257, F.A.C.]

Chapter 62-210, F.A.C.

18. Permits Required. The owner or operator of any emissions unit which emits or can reasonably be expected to emit any air pollutant shall obtain an appropriate permit from the Department prior to beginning construction, modification, or initial or continued operation of the emissions unit unless exempted pursuant to Department rule or statute. All emissions limitations, controls, and other requirements imposed by such permits shall be at least as stringent as any applicable limitations and requirements contained in or enforceable under the State Implementation Plan (SIP) or that are otherwise federally enforceable. Except as provided at Rule 62-213.460, F.A.C., issuance of a permit does not relieve the owner or operator of an emissions unit from complying with any applicable requirements, any emission limiting standards or other requirements of the air pollution rules of the Department or any other such requirements under federal, state, or local law.

(1) Air Construction Permits.

(a) Unless exempt from permitting pursuant to Rule 62-210.300(3)(a) or (b), F.A.C., or Rule 62-4.040, F.A.C., an air construction permit shall be obtained by the owner or operator of any proposed new or modified facility or emissions unit prior to the beginning of construction or modification, in accordance with all applicable provisions of this chapter, Chapter 62-212, F.A.C., and Chapter 62-4, F.A.C. Except as provided under Rule 62-213.415, F.A.C., the owner or operator of any facility seeking to create or change an air emissions bubble shall obtain an air construction permit in accordance with all the applicable provisions of this chapter, Chapter 62-212, F.A.C., and Chapter 62-4, F.A.C. The construction permit shall be issued for a period of time sufficient to allow construction or modification of the facility or emissions unit and operation while the new or modified facility or emissions unit is conducting tests or otherwise demonstrating initial compliance with the conditions of the construction permit.

(b) Notwithstanding the expiration of an air construction permit, all limitations and requirements of such permit that are applicable to the design and operation of the permitted facility or emissions unit shall remain in effect until the facility or emissions unit is permanently shut down, except for any such limitation or requirement that is obsolete by its nature (such as a requirement for initial compliance testing) or any such limitation or requirement that is changed in accordance with the provisions of Rule 62-210.300(1)(b)1., F.A.C. Either the applicant or the Department can propose that certain conditions be considered obsolete. Any conditions or language in an air construction permit that are included for informational purposes only, if they are transferred to the air operation permit, shall be transferred for informational purposes only and shall not become enforceable conditions unless voluntarily agreed to by the permittee or otherwise required under Department rules.

1. Except for those limitations or requirements that are obsolete, all limitations and requirements of an air construction permit shall be included and identified in any air operation permit for the facility or emissions unit. The limitations and requirements included in the air operation permit can be changed, and thereby superseded, through the issuance of an air construction permit, federally enforceable state air operation permit, federally enforceable air general permit, or Title V air operation permit; provided, however, that:

a. Any change that would constitute an administrative correction may be made pursuant to Rule 62-210.360, F.A.C.;

b. Any change that would constitute a modification, as defined at Rule 62-210.200, F.A.C., shall be accomplished only through the issuance of an air construction permit; and

c. Any change in a permit limitation or requirement that originates from a permit issued pursuant to 40 CFR 52.21, Rule 62-204.800(10)(d)2., F.A.C., Rule 62-212.400, F.A.C., Rule 62-212.500, F.A.C., or any former codification of Rule 62-212.400 or 62-212.500, F.A.C., shall be accomplished only through the issuance of a new or revised air construction permit under Rule 62-204.800(10)(d)2., F.A.C., 62-212.400 or 62-212.500, F.A.C., as appropriate.

2. The force and effect of any change in a permit limitation or requirement made in accordance with the provisions of Rule 62-210.300(1)(b)1. F.A.C., shall be the same as if such change were made to the original air construction permit.

3. Nothing in Rule 62-210.300(1)(b), F.A.C., shall be construed as to allow operation of a facility or emissions unit without a valid air operation permit.

(2) Air Operation Permits. Upon expiration of the air operation permit for any existing facility or emissions unit, subsequent to construction or modification and demonstration of initial compliance with the conditions of the construction permit for any new or modified facility or emissions unit, or as otherwise provided in Chapter 62-210 or Chapter 62-213, the owner or operator of such facility or emissions unit shall obtain a renewal air operation permit, an initial air operation permit, or an administrative correction or revision of an existing air operation permit, whichever is appropriate, in accordance with all applicable provisions of Chapter 62-210, Chapter 62-213, and Chapter 62-4, F.A.C.

(a) Minimum Requirements for All Air Operation Permits. At a minimum, a permit issued pursuant to this subsection shall:

1. Specify the manner, nature, volume and frequency of the emissions permitted, and the applicable emission limiting standards or performance standards, if any;

2. Require proper operation and maintenance of any pollution control equipment by qualified personnel, where applicable in accordance with the provisions of any operation and maintenance plan required by the air pollution rules of the Department.

3. Contain an effective date stated in the permit which shall not be earlier than the date final action is taken on the application and be issued for a period, beginning on the effective date, as provided below.
- a. The operation permit for an emissions unit which is in compliance with all applicable rules and in operational condition, and which the owner or operator intends to continue operating, shall be issued or renewed for a five-year period, except that, for Title V sources subject to Rule 62-213.420(1)(a)1., F.A.C., operation permits shall be extended until 60 days after the due date for submittal of the facility's Title V permit application as specified in Rule 62-213.420(1)(a)1., F.A.C.
  - b. Except as provided in Rule 62-210.300(2)(a)3.d., F.A.C., the operation permit for an emissions unit which has been shut down for six months or more prior to the expiration date of the current operation permit, shall be renewed for a period not to exceed five years from the date of shutdown, even if the emissions unit is not maintained in operational condition, provided:
    - (i) the owner or operator of the emissions unit demonstrates to the Department that the emissions unit may need to be reactivated and used, or that it is the owner's or operator's intent to apply to the Department for a permit to construct a new emissions unit at the facility before the end of the extension period; and,
    - (ii) the owner or operator of the emissions unit agrees to and is legally prohibited from providing the allowable emission permitted by the renewed permit as an emissions offset to any other person under Rule 62-212.500, F.A.C.; and,
    - (iii) the emissions unit was operating in compliance with all applicable rules as of the time the source was shut down.
  - c. Except as provided in Rule 62-210.300(2)(a)3.d., F.A.C., the operation permit for an emissions unit which has been shut down for five years or more prior to the expiration date of the current operation permit shall be renewed for a maximum period not to exceed ten years from the date of shutdown, even if the emissions unit is not maintained in operational condition, provided the conditions given in Rule 62-210.300(2)(a)3.b., F.A.C., are met and the owner or operator demonstrates to the Department that failure to renew the permit would constitute a hardship, which may include economic hardship.
  - d. The operation permit for an electric utility generating unit on cold standby or long-term reserve shutdown shall be renewed for a five-year period, and additional five-year periods, even if the unit is not maintained in operational condition, provided the conditions given in Rules 62-210.300(2)(a)3.b.(i) through (iii), F.A.C., are met.
4. In the case of an emissions unit permitted pursuant to Rules 62-210.300(2)(a)3.b., c., and d., F.A.C., include reasonable notification and compliance testing requirements for reactivation of such emissions unit and provide that the owner or operator demonstrate to the Department prior to reactivation that such reactivation would not constitute reconstruction pursuant to Rule 62-204.800(7), F.A.C.

[Rules 62-210.300(1) & (2), F.A.C.]

19. **Not federally enforceable.** Notification of Startup. The owner or operator of any emissions unit or facility which has a valid air operation permit and which has been shut down more than one (1) year, shall notify the Department in writing of the intent to start up such emissions unit or facility, a minimum of sixty (60) days prior to the intended startup date.

- (a) The notification shall include the planned startup date, anticipated emission rates or pollutants released, changes to processes or control devices which will result in changes to emission rates, and any other conditions which may differ from the valid outstanding operation permit.
- (b) If, due to an emergency, a startup date is not known 60 days prior thereto, the owner shall notify the Department as soon as possible after the date of such startup is ascertained.

[Rule 62-210.300(5), F.A.C.]

20. Emissions Unit Reclassification.

(a) Any emissions unit whose operation permit has been revoked as provided for in Chapter 62-4, F.A.C., shall be deemed permanently shut down for purposes of Rule 62-212.500, F.A.C. Any emissions unit whose permit to operate has expired without timely renewal or transfer may be deemed permanently shut down, provided, however, that no such emissions unit shall be deemed permanently shut down if, within 20 days after receipt of written notice from the Department, the emissions unit owner or operator demonstrates that the permit expiration resulted from inadvertent failure to comply with the requirements of Rule 62-4.090, F.A.C., and that the owner or operator intends to continue the emissions unit in operation, and either submits an application for an air operation permit or complies with permit transfer requirements, if applicable.

(b) If the owner or operator of an emissions unit which is so permanently shut down, applies to the Department for a permit to reactivate or operate such emissions unit, the emissions unit will be reviewed and permitted as a new emissions unit.  
[Rule 62-210.300(6), F.A.C.]

21. Public Notice and Comment.

(1) Public Notice of Proposed Agency Action.

(a) A notice of proposed agency action on permit application, where the proposed agency action is to issue the permit, shall be published by any applicant for:

1. An air construction permit;
2. An air operation permit, permit renewal or permit revision subject to Rule 62-210.300(2)(b), F.A.C., (i.e., a FESOP), except as provided in Rule 62-210.300(2)(b)1.b., F.A.C.; or
3. An air operation permit, permit renewal, or permit revision subject to Chapter 62-213, F.A.C., except those permit revisions meeting the requirements of Rule 62-213.412(1), F.A.C.

(b) The notice required by Rule 62-210.350(1)(a), F.A.C., shall be published in accordance with all otherwise applicable provisions of Rule 62-110.106, F.A.C. A public notice under Rule 62-210.350(1)(a)1., F.A.C., for an air construction permit may be combined with any required public notice under Rule 62-210.350(1)(a)2. or 3., F.A.C., for air operation permits. If such notices are combined, the public notice must comply with the requirements for both notices.

(c) Except as otherwise provided at Rules 62-210.350(2) and (5), F.A.C., each notice of intent to issue an air construction permit shall provide a 14-day period for submittal of public comments.

(2) Additional Public Notice Requirements for Emissions Units Subject to Prevention of Significant Deterioration or Nonattainment - Area Preconstruction Review.

(a) Before taking final agency action on a construction permit application for any proposed new or modified facility or emissions unit subject to the preconstruction review requirements of Rule 62-212.400 or 62-212.500, F.A.C., the Department shall comply with all applicable provisions of Rule 62-110.106, F.A.C., and provide an opportunity for public comment which shall include as a minimum the following:

1. A complete file available for public inspection in at least one location in the district affected which includes the information submitted by the owner or operator, exclusive of confidential records under Section 403.111, F.S., and the Department's analysis of the effect of the proposed construction or modification on ambient air quality, including the Department's preliminary determination of whether the permit should be approved or disapproved;
2. A 30-day period for submittal of public comments; and,
3. A notice, by advertisement in a newspaper of general circulation in the county affected, specifying the nature and location of the proposed facility or emissions unit, whether BACT or LAER has been determined, the degree of PSD increment consumption expected, if applicable, and the location of the information specified in paragraph 1. above; and notifying the public of the opportunity for submitting comments and requesting a public hearing.

(b) The notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall be prepared by the Department and published by the applicant in accordance with all applicable provisions of Rule 62-110.106, F.A.C., except that the applicant shall cause the notice to be published no later than thirty (30) days prior to final agency action.

(c) A copy of the notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall also be sent by the Department to the Regional Office of the U. S. Environmental Protection Agency and to all other state and local officials or agencies having cognizance over the location of such new or modified facility or emissions unit, including local air pollution control agencies, chief executives of city or county government, regional land use planning agencies, and any other state, Federal Land Manager, or Indian Governing Body whose lands may be affected by emissions from the new or modified facility or emissions unit.

(d) A copy of the notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall be displayed in the appropriate district, branch and local program offices.

(e) An opportunity for public hearing shall be provided in accordance with Chapter 120, F.S., and Rule 62-110.106, F.A.C.

(f) Any public comments received shall be made available for public inspection in the location where the information specified in Rule 62-210.350(2)(a)1., F.A.C., is available and shall be considered by the Department in making a final determination to approve or deny the permit.

(g) The final determination shall be made available for public inspection at the same location where the information specified in Rule 62-210.350(2)(a)1., F.A.C., was made available.



(h) For a proposed new or modified emissions unit which would be located within 100 kilometers of any Federal Class I area or whose emissions may affect any Federal Class I area, and which would be subject to the preconstruction review requirements of Rule 62-212.400, F.A.C., or Rule 62-212.500, F.A.C.:

1. The Department shall mail or transmit to the Administrator a copy of the initial application for an air construction permit and notice of every action related to the consideration of the permit application.
2. The Department shall mail or transmit to the Federal Land Manager of each affected Class I area a copy of any written notice of intent to apply for an air construction permit; the initial application for an air construction permit, including all required analyses and demonstrations; any subsequently submitted information related to the application; the preliminary determination and notice of proposed agency action on the permit application; and any petition for an administrative hearing regarding the application or the Department's proposed action. Each such document shall be mailed or transmitted to the Federal Land Manager within fourteen (14) days after its receipt by the Department.

(3) Additional Public Notice Requirements for Facilities Subject to Operation Permits for Title V Sources.

(a) Before taking final agency action to issue a new, renewed, or revised air operation permit subject to Chapter 62-213, F.A.C., the Department shall comply with all applicable provisions of Rule 62-110.106, F.A.C., and provide an opportunity for public comment which shall include as a minimum the following:

1. A complete file available for public inspection in at least one location in the district affected which includes the information submitted by the owner or operator, exclusive of confidential records under Section 403.111, F.S.; and,
2. A 30-day period for submittal of public comments.

(b) The notice provided for in Rule 62-210.350(3)(a), F.A.C., shall be prepared by the Department and published by the applicant in accordance with all applicable provisions of Rule 62-110.106, F.A.C., except that the applicant shall cause the notice to be published no later than thirty (30) days prior to final agency action.

(c) The notice shall identify:

1. The facility;
2. The name and address of the office at which processing of the permit occurs;
3. The activity or activities involved in the permit action;
4. The emissions change involved in any permit revision;
5. The name, address, and telephone number of a Department representative from whom interested persons may obtain additional information, including copies of the permit draft, the application, and all relevant supporting materials, including any permit application, compliance plan, permit, monitoring report, and compliance statement required pursuant to Chapter 62-213, F.A.C. (except for information entitled to confidential treatment pursuant to Section 403.111, F.S.), and all other materials available to the Department that are relevant to the permit decision;
6. A brief description of the comment procedures required by Rule 62-210.350(3), F.A.C.;
7. The time and place of any hearing that may be held, including a statement of procedure to request a hearing (unless a hearing has already been scheduled); and,
8. The procedures by which persons may petition the Administrator to object to the issuance of the proposed permit after expiration of the Administrator's 45-day review period.

[Rule 62-210.350, F.A.C.]

22. Administrative Permit Corrections.

(1) A facility owner shall notify the Department by letter of minor corrections to information contained in a permit. Such notifications shall include:

- (a) Typographical errors noted in the permit;
- (b) Name, address or phone number change from that in the permit;
- (c) A change requiring more frequent monitoring or reporting by the permittee;
- (d) Changes listed at 40 CFR 72.83(a)(1), (2), (6), (9) and (10), hereby adopted and incorporated by reference, to Title V sources subject to emissions limitations or reductions pursuant to 42 USC ss. 7651-7651o;
- (e) Changes listed at 40 CFR 72.83(a)(11), hereby adopted and incorporated by reference, to Title V sources subject to emissions limitations or reductions pursuant to 42 USC ss. 7651-7651o, provided the notification is accompanied by a copy of any EPA determination concerning the similarity of the change to those listed at Rule 62-210.360(1)(d), F.A.C.; and
- (f) Any other similar minor administrative change at the source.

(2) Upon receipt of any such notification the Department shall within 60 days correct the permit and provide a corrected copy to the owner.

(3) After first notifying the owner, the Department shall correct any permit in which it discovers errors of the types listed at Rule 62-210.360(1)(a) and (b), F.A.C., and provide a corrected copy to the owner.

(4) For Title V source permits, other than general permits, a copy of the corrected permit shall be provided to EPA and any approved local air program in the county where the facility or any part of the facility is located.

APPENDIX TV-3, TITLE V CONDITIONS (version dated 04/30/99) (continued)

(5) The Department shall incorporate requirements resulting from issuance of a new or revised construction permit into an existing Title V source permit, if the construction permit or permit revision incorporates requirements of federally enforceable preconstruction review, and if the applicant requests at the time of application that all of the requirements of Rule 62-213.430(1), F.A.C., be complied with in conjunction with the processing of the construction permit application.

[Rule 62-210.360, F.A.C.]

23. Reports.

(3) Annual Operating Report for Air Pollutant Emitting Facility.

(a) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be completed each year.

(c) The annual operating report shall be submitted to the appropriate Department District or Department approved local air pollution control program office by March 1 of the following year unless otherwise indicated by permit condition or Department request.

[Rule 62-210.370(3), F.A.C.]

24. Circumvention. No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly.

[Rule 62-210.650, F.A.C.]

25. Forms and Instructions. The forms used by the Department in the stationary source control program are adopted and incorporated by reference in this section. The forms are listed by rule number, which is also the form number, with the subject, title and effective date. Forms 62-210.900(1),(3),(4) and (5), F.A.C., including instructions, are available from the Department as hard-copy documents or executable files on computer diskettes. Copies of forms (hard-copy or diskette) may be obtained by writing to the Department of Environmental Protection, Division of Air Resources Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Notwithstanding the requirement of Rule 62-4.050(2), F.A.C., to file application forms in quadruplicate, if an air permit application is submitted using the Department's electronic application form, only one copy of the diskette and signature pages is required to be submitted.

(1) Application for Air Permit - Title V Source, Form and Instructions (Effective 2-11-99).

(a) Acid Rain Part (Phase II), Form and Instructions (Effective 7-1-95).

1. Repowering Extension Plan, Form and Instructions (Effective 7-1-95).

2. New Unit Exemption, Form and Instructions (Effective 7-1-95).

3. Retired Unit Exemption, Form and Instructions (Effective 7-1-95).

4. Phase II NOx Compliance Plan, Form and Instructions (Effective 1-6-98).

5. Phase II NOx Averaging Plan, Form (Effective 1-6-98).

(b) Reserved.

(5) Annual Operating Report for Air Pollutant Emitting Facility, Form and Instructions (Effective 2-11-99).

[Rule 62-210.900, F.A.C.]

Chapter 62-213, F.A.C.

26. Annual Emissions Fee. Each Title V source permitted to operate in Florida must pay between January 15 and March 1 of each year, upon written notice from the Department, an annual emissions fee in accordance with Rule 62-213.205, F.A.C., and the appropriate form and associated instructions.

[Rules 62-213.205 and 62-213.900(1), F.A.C.]

27. Annual Emissions Fee. Failure to pay timely any required annual emissions fee, penalty, or interest constitutes grounds for permit revocation pursuant to Rule 62-4.100, F.A.C.

[Rule 62-213.205(1)(g), F.A.C.]

28. Annual Emissions Fee. Any documentation of actual hours of operation, actual material or heat input, actual production amount, or actual emissions used to calculate the annual emissions fee shall be retained by the owner for a minimum of five (5) years and shall be made available to the Department upon request.

[Rule 62-213.205(1)(j), F.A.C.]

29. Annual Emissions Fee. A completed DEP Form 62-213.900(1), F.A.C., "Major Air Pollution Source Annual Emissions Fee Form", must be submitted by the responsible official with the annual emissions fee.

[Rule 62-213.205(1)(k), F.A.C.]

APPENDIX TV-3, TITLE V CONDITIONS (version dated 04/30/99) (continued)

30. Air Operation Permit Fees. After December 31, 1992, no permit application processing fee, renewal fee, modification fee or amendment fee is required for an operation permit for a Title V source.

[Rule 62-213.205(4), F.A.C.]

31. Permits and Permit Revisions Required. All Title V sources are subject to the permit requirements of Chapter 62-213, F.A.C.

(1) No Title V source may operate except in compliance with Chapter 62-213, F.A.C.

(2) Except as provided in Rule 62-213.410, F.A.C., no source with a permit issued under the provisions of this chapter shall make any changes in its operation without first applying for and receiving a permit revision if the change meets any of the following:

- (a) Constitutes a modification;
- (b) Violates any applicable requirement;
- (c) Exceeds the allowable emissions of any air pollutant from any unit within the source;
- (d) Contravenes any permit term or condition for monitoring, testing, recordkeeping, reporting or of a compliance certification requirement;
- (e) Requires a case-by-case determination of an emission limitation or other standard or a source specific determination of ambient impacts, or a visibility or increment analysis under the provisions of Chapters 62-212 or 62-296, F.A.C.;
- (f) Violates a permit term or condition which the source has assumed for which there is no corresponding underlying applicable requirement to which the source would otherwise be subject;
- (g) Results in the trading of emissions among units within a source except as specifically authorized pursuant to Rule 62-213.415, F.A.C.
- (h) Results in the change of location of any relocatable facility identified as a Title V source pursuant to paragraph (a)-(e), (g) or (h) of the definition of "major source of air pollution" at Rule 62-210.200, F.A.C
- (i) Constitutes a change at an Acid Rain Source under the provisions of 40 CFR 72.81(a)(1),(2),or (3),(b)(1) or (b)(3), hereby incorporated by reference;
- (j) Constitutes a change in a repowering plan, nitrogen oxides averaging plan, or nitrogen oxides compliance deadline extension at an Acid Rain Source.
- (k) Is a request for exemption pursuant to Rule 62-214.340, F.A.C.

[Rule 62-213.400(1) & (2), F.A.C.]

32. Changes Without Permit Revision. Title V sources having a valid permit issued pursuant to Chapter 62-213, F.A.C., may make the following changes without permit revision, provided that sources shall maintain source logs or records to verify periods of operation in each alternative method of operation:

- (1) Permitted sources may change among those alternative methods of operation allowed by the source's permit as provided by the terms of the permit;
- (2) Permitted sources may implement the terms or conditions of a new or revised construction permit if:
  - (a) The application for construction permit complied with the requirements of Rule 62-213.420(3) and (4), F.A.C.;
  - (b) The terms or conditions were subject to federally enforceable preconstruction review pursuant to Chapter 62-212, F.A.C.;and,
  - (c) The new or revised construction permit was issued after the Department and the applicant complied with all the requirements of Rule 62-213.430(1), F.A.C.;
- (3) A permitted source may implement operating changes after the source submits any forms required by any applicable requirement and provides the Department and EPA with at least 7 days written notice prior to implementation. The source and the Department shall attach each notice to the relevant permit:
  - (a) The written notice shall include the date on which the change will occur, and a description of the change within the permitted source, the pollutants emitted and any change in emissions, and any term or condition becoming applicable or no longer applicable as a result of the change;
  - (b) The permit shield described in Rule 62-213.460, F.A.C., shall not apply to such changes;
- (4) Permitted sources may implement changes involving modes of operation only in accordance with Rule 62-213.415, F.A.C.

[Rule 62-213.410, F.A.C.]

33. Immediate Implementation Pending Revision Process.

(1) Those permitted Title V sources making any change that constitutes a modification pursuant to the definition of modification at Rule 62-210.200, F.A.C., but which would not constitute a modification pursuant to 42 USC 7412(a) or to 40 CFR 52.01, 60.2, or 61.15, adopted and incorporated by reference at Rule 62-204.800, F.A.C., may implement such change prior to final issuance of a permit revision in accordance with this section, provided the change:

- (a) Does not violate any applicable requirement;
- (b) Does not contravene any permit term or condition for monitoring, testing, recordkeeping or reporting, or any compliance certification requirement;

- (c) Does not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination of ambient impacts, or a visibility or increment analysis under the provisions of Chapter 62-212 or 62-296, F.A.C.;
- (d) Does not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject including any federally enforceable emissions cap or federally enforceable alternative emissions limit.
- (2) A Title V source may immediately implement such changes after they have been incorporated into the terms and conditions of a new or revised construction permit issued pursuant to Chapter 62-212, F.A.C., and after the source provides to EPA, the Department, each affected state and any approved local air program having geographic jurisdiction over the source, a copy of the source's application for operation permit revision. The Title V source may conform its application for construction permit to include all information required by Rule 62-213.420, F.A.C., in lieu of submitting separate application forms.
- (3) The Department shall process the application for operation permit revision in accordance with the provisions of Chapter 62-213, F.A.C., except that the Department shall issue a draft permit revision or a determination to deny the revision within 60 days of receipt of a complete application for operation permit revision or, if the Title V source has submitted a construction permit application conforming to the requirements of Rule 62-213.420, F.A.C., the Department shall issue a draft permit or a determination to deny the revision at the same time the Department issues its determination on issuance or denial of the construction permit application. The Department shall not take final action until all the requirements of Rule 62-213.430(1)(a), (c), (d), and (e), F.A.C., have been complied with.
- (4) Pending final action on the operation permit revision application, the source shall implement the changes in accordance with the terms and conditions of the source's new or revised construction permit.
- (5) The permit shield described in Rule 62-213.460, F.A.C., shall not apply to such changes until after the Department takes final action to issue the operation permit revision.
- (6) If the Department denies the source's application for operation permit revision, the source shall cease implementation of the proposed changes.
- [Rule 62-213.412, F.A.C.]

34. Permit Applications.

- (1) Duty to Apply. For each Title V source, the owner or operator shall submit a timely and complete permit application in compliance with the requirements of Rules 62-213.420, 62-4.050(1) & (2), and 62-210.900, F.A.C.
- (a) Timely Application.
3. For purposes of permit renewal, a timely application is one that is submitted in accordance with Rule 62-4.090, F.A.C.
- (b) Complete Application.
1. Any applicant for a Title V permit, permit revision or permit renewal must submit an application on DEP Form No. 62-210.900(1), which must include all the information specified by Rule 62-213.420(3), F.A.C., except that an application for permit revision must contain only that information related to the proposed change. The applicant shall include information concerning fugitive emissions and stack emissions in the application. Each application for permit, permit revision or permit renewal shall be certified by a responsible official in accordance with Rule 62-213.420(4), F.A.C.
2. For those applicants submitting initial permit applications pursuant to Rule 62-213.420(1)(a)1., F.A.C., a complete application shall be an application that substantially addresses all the information required by the application form number 62-210.900(1), and such applications shall be deemed complete within sixty days of receipt of a signed and certified application unless the Department notifies the applicant of incompleteness within that time. For all other applicants, the applications shall be deemed complete sixty days after receipt, unless the Department, within sixty days after receipt of a signed application for permit, permit revision or permit renewal, requests additional documentation or information needed to process the application. An applicant making timely and complete application for permit, or timely application for permit renewal as described by Rule 62-4.090(1), F.A.C., shall continue to operate the source under the authority and provisions of any existing valid permit or Florida Electrical Power Plant Siting Certification, provided the applicant complies with all the provisions of Rules 62-213.420(1)(b)3. and 4. F.A.C. Failure of the Department to request additional information within sixty days of receipt of a properly signed application shall not impair the Department's ability to request additional information pursuant to Rules 62-213.420(1)(b)3. and 4., F.A.C.

3. For those permit applications submitted pursuant to the provisions of Rule 62-213.420(1)(a)1., F.A.C., the Department shall notify the applicant if the Department becomes aware at any time during processing of the application that the application contains incorrect or incomplete information. The applicant shall submit the corrected or supplementary information to the Department within ninety days unless the applicant has requested and been granted additional time to submit the information. Failure of an applicant to submit corrected or supplementary information requested by the Department within ninety days or such additional time as requested and granted shall render the application incomplete.

4. For all applications other than those addressed at Rule 62-213.420(1)(b)3., F.A.C., should the Department become aware, during processing of any application that the application contains incorrect information, or should the Department become aware, as a result of comment from an affected State, an approved local air program, EPA, or the public that additional information is needed to evaluate the application, the Department shall notify the applicant within 30 days. When an applicant becomes aware that an application contains incorrect or incomplete information, the applicant shall submit the corrected or supplementary information to the Department. If the Department notifies an applicant that corrected or supplementary information is necessary to process the permit, and requests a response, the applicant shall provide the information to the Department within ninety days of the Department request unless the applicant has requested and been granted additional time to submit the information or, the applicant shall, within ninety days, submit a written request that the Department process the application without the information. Failure of an applicant to submit corrected or supplementary information requested by the Department within ninety days, or such additional time as requested and granted, or to demand in writing within ninety days that the application be processed without the information shall render the application incomplete. Nothing in this section shall limit any other remedies available to the Department.

[Rules 62-213.420(1)(a)3. and 62-213.420(1)(b)1., 2., 3. & 4., F.A.C.]

35. Confidential Information. Whenever an applicant submits information under a claim of confidentiality pursuant to Section 403.111, F.S., the applicant shall also submit a copy of all such information and claim directly to EPA. (also, see Condition No. 50.)

[Rule 62-213.420(2), F.A.C.]

36. Standard Application Form and Required Information. Applications shall be submitted under Chapter 62-213, F.A.C., on forms provided by the Department and adopted by reference in Rule 62-210.900(1), F.A.C. The information as described in Rule 62-210.900(1), F.A.C., shall be included for the Title V source and each emissions unit. An application must include information sufficient to determine all applicable requirements for the Title V source and each emissions unit and to evaluate a fee amount pursuant to Rule 62-213.205, F.A.C.

[Rule 62-213.420(3), F.A.C.]

37. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

[Rule 62-213.420(4), F.A.C.]

38. a. Permit Renewal and Expiration. Permits being renewed are subject to the same requirements that apply to permit issuance at the time of application for renewal. Permit renewal applications shall contain that information identified in Rules 62-210.900(1) and 62-213.420(3), F.A.C. Unless a Title V source submits a timely application for permit renewal in accordance with the requirements of Rule 62-4.090(1), F.A.C., the existing permit shall expire and the source's right to operate shall terminate.

b. Permit Revision Procedures. Permit revisions shall meet all requirements of Chapter 62-213, F.A.C., including those for content of applications, public participation, review by approved local programs and affected states, and review by EPA, as they apply to permit issuance and renewal, except that permit revisions for those activities implemented pursuant to Rule 62-213.412, F.A.C., need not meet the requirements of Rule 62-213.430(1)(b), F.A.C. The Department shall require permit revision in accordance with the provisions of Rule 62-4.080, F.A.C., and 40 CFR 70.7(f), whenever any source becomes subject to any condition listed at 40 CFR 70.7(f)(1), hereby adopted and incorporated by reference. The below requirements from 40 CFR 70.7(f) are adopted and incorporated by reference in Rule 62-213.430(4), F.A.C.:

o 40 CFR 70.7(f): Reopening for Cause. (also, see Condition No. 4)

(1) This section contains provisions from 40 CFR 70.7(f) that specify the conditions under which a Title V permit shall be reopened prior to the expiration of the permit. A Title V permit shall be reopened and revised under any of the following circumstances:

(i) Additional applicable requirements under the Act become applicable to a major Part 70 source with a remaining permit term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii).

(ii) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approved by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

(iii) The permitting authority or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

(iv) The Administrator or the permitting authority determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(2) Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.

(3) Reopenings under 40 CFR 70.7(f)(1) shall not be initiated before a notice of such intent is provided to the Part 70 source by the permitting authority at least 30 days in advance of the date that the permit is to be reopened, except that the permitting authority may provide a shorter time period in the case of an emergency.

[Rules 62-213.430(3) & (4), F.A.C.; and, 40 CFR 70.7(f)]

39. Insignificant Emissions Units or Pollutant-Emitting Activities.

(a) All requests for determination of insignificant emissions units or activities made pursuant to Rule 62-213.420(3)(m), F.A.C., shall be processed in conjunction with the permit, permit renewal or permit revision application submitted pursuant to Chapter 62-213, F.A.C. Insignificant emissions units or activities shall be approved by the Department consistent with the provisions of Rule 62-4.040(1)(b), F.A.C. Emissions units or activities which are added to a Title V source after issuance of a permit under Chapter 62-213, F.A.C., shall be incorporated into the permit at its next renewal, provided such emissions units or activities have been exempted from the requirement to obtain an air construction permit and also qualify as insignificant pursuant to Rule 62-213.430(6), F.A.C.

(b) An emissions unit or activity shall be considered insignificant if:

1. Such unit or activity would be subject to no unit-specific applicable requirement;
2. Such unit or activity, in combination with other units or activities proposed as insignificant, would not cause the facility to exceed any major source threshold(s) as defined in Rule 62-213.420(3)(c)1., F.A.C., unless it is acknowledged in the permit application that such units or activities would cause the facility to exceed such threshold(s); and
3. Such unit or activity would not emit or have the potential to emit:
  - a. 500 pounds per year or more of lead and lead compounds expressed as lead;
  - b. 1,000 pounds per year or more of any hazardous air pollutant;
  - c. 2,500 pounds per year or more of total hazardous air pollutants; or
  - d. 5.0 tons per year or more of any other regulated pollutant.

[Rule 62-213.430(6), F.A.C.]

40. Permit Duration. Operation permits for Title V sources may not be extended as provided in Rule 62-4.080(3), F.A.C., if such extension will result in a permit term greater than five (5) years.

[Rule 62-213.440(1)(a), F.A.C.]

APPENDIX TV-3, TITLE V CONDITIONS (version dated 04/30/99) (continued)

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41. Monitoring Information. All records of monitoring information shall specify the date, place, and time of sampling or measurement and the operating conditions at the time of sampling or measurement, the date(s) analyses were performed, the company or entity that performed the analyses, the analytical techniques or methods used, and the results of such analyses. [Rule 62-213.440(1)(b)2.a., F.A.C.]
42. Retention of Records. Retention of records of all monitoring data and support information shall be for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. [Rule 62-213.440(1)(b)2.b., F.A.C.]
43. Monitoring Reports. The permittee shall submit reports of any required monitoring at least every six (6) months. All instances of deviations from permit requirements must be clearly identified in such reports. [Rule 62-213.440(1)(b)3.a., F.A.C.]
44. Deviation from Permit Requirements Reports. The permittee shall report in accordance with the requirements of Rules 62-210.700(6) and 62-4.130, F.A.C., any deviations from permit requirements, including those attributable to upset conditions as defined in the permit. Reports shall include the probable cause of such deviations, and any corrective actions or preventive measures taken. [Rule 62-213.440(1)(b)3.b., F.A.C.]
45. Reports. All reports shall be accompanied by a certification by a responsible official, pursuant to Rule 62-213.420(4), F.A.C. [Rule 62-213.440(1)(b)3.c., F.A.C.]
46. If any portion of the final permit is invalidated, the remainder of the permit shall remain in effect. [Rule 62-213.440(1)(d)1., F.A.C.]
47. It shall not be a defense for a permittee in an enforcement action that maintaining compliance with any permit condition would necessitate halting of or reduction of the source activity. [Rule 62-213.440(1)(d)3., F.A.C.]
48. A Title V source shall comply with all the terms and conditions of the existing permit until the Department has taken final action on any permit renewal or any requested permit revision, except as provided at Rule 62-213.412(2), F.A.C. [Rule 62-213.440(1)(d)4., F.A.C.]
49. A situation arising from sudden and unforeseeable events beyond the control of the source which causes an exceedance of a technology-based emissions limitation because of unavoidable increases in emissions attributable to the situation and which requires immediate corrective action to restore normal operation, shall be an affirmative defense to an enforcement action in accordance with the provisions and requirements of 40 CFR 70.6(g)(2) and (3), hereby adopted and incorporated by reference. [Rule 62-213.440(1)(d)5., F.A.C.]
50. Confidentiality Claims. Any permittee may claim confidentiality of any data or other information by complying with Rule 62-213.420(2), F.A.C. (also, see Condition No. 35.) [Rule 62-213.440(1)(d)6., F.A.C.]

51. Statement of Compliance. The permittee shall submit a statement of compliance with all terms and conditions of the permit. Such statements shall be submitted to the Department and EPA annually, or more frequently if specified by Rule 62-213.440(2), F.A.C., or by any other applicable requirement. Such statements shall be accompanied by a certification in accordance with Rule 62-213.420(4), F.A.C. The statement of compliance shall include all the provisions of 40 CFR 70.6(c)(5)(iii), incorporated by reference at Rule 62-204.800, F.A.C.

o 40 CFR 70.6(c)(5)(iii). The compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

(A) The identification of each term or condition of the permit that is the basis of the certification;

(B) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period, and whether such methods or other means provide continuous or intermittent data. Such methods and other means shall include, at a minimum, the methods and means required under 40 CFR 70.6(a)(3). If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Act, which prohibits knowingly making a false certification or omitting material information;

(C) The status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the method or means designated in paragraph (c)(5)(iii)(B) of this section. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under part 64 of this chapter occurred; and

(D) Such other facts as the permitting authority may require to determine the compliance status of the source.

The statement shall be accompanied by a certification by a responsible official, in accordance with Rule 62-213.420(4), F.A.C. The responsible official may treat compliance with all other applicable requirements as a surrogate for compliance with Rule 62-296.320(2), Objectionable Odor Prohibited.

[Rule 62-213.440(3), F.A.C.]

52. Permit Shield. Except as provided in Chapter 62-213, F.A.C., compliance with the terms and conditions of a permit issued pursuant to Chapter 62-213, F.A.C., shall be deemed compliance with any applicable requirements in effect as of the date of permit issuance, provided that the source included such applicable requirements in the permit application. Nothing in Rule 62-213.460, F.A.C., or in any permit shall alter or affect the ability of EPA or the Department to deal with an emergency, the liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance, or the requirements of the Federal Acid Rain Program.

{Permitting note: The permit shield is not in effect until the effective date of the permit.}

[Rule 62-213.460, F.A.C.]

53. Forms and Instructions. The forms used by the Department in the Title V source operation program are adopted and incorporated by reference in Rule 62-213.900, F.A.C. The form is listed by rule number, which is also the form number, and with the subject, title, and effective date. Copies of forms may be obtained by writing to the Department of Environmental Protection, Division of Air Resources Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or by contacting the appropriate permitting authority.

(1) Major Air Pollution Source Annual Emissions Fee (AEF) Form.

[Rule 62-213.900(1), F.A.C.]

#### Chapter 62-256, F.A.C.

54. Not federally enforceable. Open Burning. This permit does not authorize any open burning nor does it constitute any waiver of the requirements of Chapter 62-256, F.A.C. Source shall comply with Chapter 62-256, F.A.C., for any open burning at the source.

[Chapter 62-256, F.A.C.]

#### Chapter 62-281, F.A.C.

55. Refrigerant Requirements. Any facility having refrigeration equipment, including air conditioning equipment, which uses a Class I or II substance (listed at 40 CFR 82, Subpart A, Appendices A and B), and any facility which maintains, services, or repairs motor vehicles using a Class I or Class II substance as refrigerant must comply with all requirements of 40 CFR 82, Subparts B and F, and with Rule 62-281.100, F.A.C. Those requirements include the following restrictions:

(1) Any facility having any refrigeration equipment normally containing 50 (fifty) pounds of refrigerant, or more, must keep servicing records documenting the date and type of all service and the quantity of any refrigerant added pursuant to 40 CFR 82.166;



- (2) No person repairing or servicing a motor vehicle may perform any service on a motor vehicle air conditioner (MVAC) involving the refrigerant for such air conditioner unless the person has been properly trained and certified as provided at 40 CFR 82.34 and 40 CFR 82.40, and properly uses equipment approved pursuant to 40 CFR 82.36 and 40 CFR 82.38, and complies with 40 CFR 82.42;
- (3) No person may sell or distribute, or offer for sale or distribution, any substance listed as a Class I or Class II substance at 40 CFR 82, Subpart A, Appendices A and B, except in compliance with Rule 62-281.100, F.A.C., and 40 CFR 82.34(b), 40 CFR 82.42, and/or 40 CFR 82.166;
- (4) No person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the atmosphere any Class I or Class II substance used as a refrigerant in such equipment and no other person may open appliances (except MVACs as defined at 40 CFR 82.152) for service, maintenance or repair unless the person has been properly trained and certified pursuant to 40 CFR 82.161 and unless the person uses equipment certified for that type of appliance pursuant to 40 CFR 82.158 and unless the person observes the practices set forth at 40 CFR 82.156 and 40 CFR 82.166;
- (5) No person may dispose of appliances (except small appliances, as defined at 40 CFR 82.152) without using equipment certified for that type of appliance pursuant to 40 CFR 82.158 and without observing the practices set forth at 40 CFR 82.156 and 40 CFR 82.166;
- (6) No person may recover refrigerant from small appliances, MVACs and MVAC-like appliances (as defined at 40 CFR 82.152), except in compliance with the requirements of 40 CFR 82, Subpart F.  
[40 CFR 82; and, Chapter 62-281, F.A.C. (**Chapter 62-281, F.A.C., is not federally enforceable**)]

Chapter 62-296, F.A.C.

56. Industrial, Commercial, and Municipal Open Burning Prohibited. Open burning in connection with industrial, commercial, or municipal operations is prohibited, except when:

- (a) Open burning is determined by the Department to be the only feasible method of operation and is authorized by an air permit issued pursuant to Chapter 62-210 or 62-213, F.A.C.; or
- (b) An emergency exists which requires immediate action to protect human health and safety; or
- (c) A county or municipality would use a portable air curtain incinerator to burn yard trash generated by a hurricane, tornado, fire or other disaster and the air curtain incinerator would otherwise be operated in accordance with the permitting exemption criteria of Rule 62-210.300(3), F.A.C.

[Rule 62-296.320(3), F.A.C.]

57. Unconfined Emissions of Particulate Matter.

(4)(c)1. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any emissions unit whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling, without taking reasonable precautions to prevent such emission.

3. Reasonable precautions may include, but shall not be limited to the following:

- a. Paving and maintenance of roads, parking areas and yards.
- b. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
- c. Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar emissions units.
- d. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the emissions unit to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.
- e. Landscaping or planting of vegetation.
- f. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
- g. Confining abrasive blasting where possible.
- h. Enclosure or covering of conveyor systems.

4. In determining what constitutes reasonable precautions for a particular facility, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

[Rules 62-296.320(4)(c)1., 3., & 4. F.A.C.]

**Figure 1: Summary Report-  
Gaseous and Opacity Excess Emission  
and Monitoring System Performance**

## FIGURE 1--SUMMARY REPORT--GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE

[Note: This form is referenced in 40 CFR 60.7, Subpart A-General Provisions]

Pollutant (*Circle One*):    SO<sub>2</sub>    NO<sub>x</sub>    TRS    H<sub>2</sub>S    CO    Opacity

Reporting period dates: From \_\_\_\_\_ to \_\_\_\_\_

Company: \_\_\_\_\_

Emission Limitation: \_\_\_\_\_

Address: \_\_\_\_\_

Monitor Manufacturer: \_\_\_\_\_

Model No.: \_\_\_\_\_

Date of Latest CMS Certification or Audit: \_\_\_\_\_

Process Unit(s) Description: \_\_\_\_\_

Total source operating time in reporting period <sup>1</sup>: \_\_\_\_\_

Emission data summary <sup>1</sup>	CMS performance summary <sup>1</sup>
1. Duration of excess emissions in reporting period due to:	1. CMS downtime in reporting period due to:
a. Startup/shutdown .....	a. Monitor equipment malfunctions .....
b. Control equipment problems .....	b. Non-Monitor equipment malfunctions .....
c. Process problems .....	c. Quality assurance calibration .....
d. Other known causes .....	d. Other known causes .....
e. Unknown causes .....	e. Unknown causes .....
2. Total duration of excess emissions .....	2. Total CMS Downtime .....
3. Total duration of excess emissions x (100) / [Total source operating time] .....	3. [Total CMS Downtime] x (100) / [Total source operating time] .....
_____ % <sup>2</sup>	_____ % <sup>2</sup>

<sup>1</sup> For opacity, record all times in minutes. For gases, record all times in hours.

<sup>2</sup> For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 40 CFR 60.7(c) shall be submitted.

*Note: On a separate page, describe any changes since last quarter in CMS, process or controls.*

I certify that the information contained in this report is true, accurate, and complete.

Name: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

**Table 297.310-1, Calibration Schedule**

**TABLE 297.310-1 CALIBRATION SCHEDULE  
(version dated 10/07/96)**

[Note: This table is referenced in Rule 62-297.310, F.A.C.]

ITEM	MINIMUM CALIBRATION FREQUENCY	REFERENCE INSTRUMENT	TOLERANCE
Liquid in glass thermometer	Annually	ASTM Hg in glass ref. thermometer or equivalent, or thermometric points	+/-2%
Bimetallic thermometer	Quarterly	Calib. liq. in glass thermometer	5 degrees F
Thermocouple	Annually	ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer	5 degrees F
Barometer	Monthly	Hg barometer or NOAA station	+/-1% scale
Pitot Tube	When required or when damaged	By construction or measurements in wind tunnel D greater than 16" and standard pitot tube	See EPA Method 2, Fig. 2-2 & 2-3
Probe Nozzles	Before each test or when nicked, dented, or corroded	Micrometer	+/-0.001" mean of at least three readings Max. deviation between readings .004"
Dry Gas Meter and Orifice Meter	1. Full Scale: When received, When 5% change observed, Annually 2. One Point: Semiannually 3. Check after each test series	Spirometer or calibrated wet test or dry gas test meter	2%
		Comparison check	5%

**Table 1-1, Summary of Air Pollutant Standards and Terms**

**Table 1-1, Summary of Air Pollutant Standards and Terms**

Wheelabrator North Broward, Inc.  
North Broward Waste-to-Energy Facility

**DRAFT Permit No.:** 0112120-001-AV  
**Facility ID No.:** 0112120

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of the permit.

E. U. ID No.	Brief Description	Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions			Equivalent Emissions*		Regulatory Citation(s)	See Permit Condition(s)
					Standard(s)	lbs./hour	TPY	lbs./hour	TPY		
-001	UNIT 1 - Municipal Solid Waste (MSW) Combustor (186,000 lbs/hr - steam) (807 TPD - MSW) (302.5 MMBtu/hour-MSW)	VE	MSW	8760	10%			N/A	N/A	40 CFR 60.33b(a)(1)(iii)	
		PM <sup>1</sup>	MSW	8760	27 mg/dscm			7.35	32.2	40 CFR 60.33b(a)(1)(i)	
		PM <sub>10</sub> <sup>1</sup>	MSW	8760	27 mg/dscm			7.35	32.2	40 CFR 60.33b(a)(1)(i)	
		CO <sup>1</sup>	MSW	8760	100 ppm <sub>v</sub>			31.8	139	40 CFR 60.34b(a)	
		NO <sub>x</sub> <sup>1</sup>	MSW	8760	205 ppm <sub>v</sub>			107	466	40 CFR 60.33b(d)	
		SO <sub>2</sub> <sup>1,2</sup>	MSW	8760	29 ppm <sub>v</sub> or 75% reduction			33	144	40 CFR 60.33b(b)(3)(i)	
		HCl <sup>1,2</sup>	MSW	8760	29 ppm <sub>v</sub> or 95% reduction			1.2	5.1	40 CFR 60.33b(b)(3)(ii)	
		dioxin/furan <sup>1</sup>	MSW	8760	30 ng/dscm (total mass)			8.2E-06	3.6E-05	40 CFR 60.33b(c)(1)(ii)	
		Cd <sup>1</sup>	MSW	8760	0.040 mg/dscm			0.011	0.048	40 CFR 60.33b(a)(2)(i)	
		Hg <sup>1,2</sup>	MSW	8760	0.070 mg/dscm or 85% reduction			0.019	0.080	Rule 62-296.416(3)(b)1.b., F.A.C.	
		Pb <sup>1</sup>	MSW	8760	0.44 mg/dscm			0.13	0.58	40 CFR 60.33b(a)(4)	
Be	MSW	8760	9.30 x 10 <sup>-7</sup> lb/mmbtu			3.00E-04	1.20E-03	40 CFR 61.32(a) & PSD-FL-112			
Fl	MSW	8760	.0040 lb/mmbtu			1.2	5.3	PSD-FL-112			
-002	UNIT 2 - Municipal Solid Waste (MSW) Combustor (186,000 lbs/hr - steam) (807 TPD - MSW) (302.5 MMBtu/hour-MSW)	VE	MSW	8760	10%			N/A	N/A	40 CFR 60.33b(a)(1)(iii)	
		PM <sup>1</sup>	MSW	8760	27 mg/dscm			7.35	32.2	40 CFR 60.33b(a)(1)(i)	
		PM <sub>10</sub> <sup>1</sup>	MSW	8760	27 mg/dscm			7.35	32.2	40 CFR 60.33b(a)(1)(i)	
		CO <sup>1</sup>	MSW	8760	100 ppm <sub>v</sub>			31.8	139	40 CFR 60.34b(a)	
		NO <sub>x</sub> <sup>1</sup>	MSW	8760	205 ppm <sub>v</sub>			107	466	40 CFR 60.33b(d)	
		SO <sub>2</sub> <sup>1,2</sup>	MSW	8760	29 ppm <sub>v</sub> or 75% reduction			33	144	40 CFR 60.33b(b)(3)(i)	
		HCl <sup>1,2</sup>	MSW	8760	29 ppm <sub>v</sub> or 95% reduction			1.2	5.1	40 CFR 60.33b(b)(3)(ii)	
		dioxin/furan <sup>1</sup>	MSW	8760	30 ng/dscm (total mass)			8.2E-06	3.6E-05	40 CFR 60.33b(c)(1)(ii)	
		Cd <sup>1</sup>	MSW	8760	0.040 mg/dscm			0.011	0.048	40 CFR 60.33b(a)(2)(i)	
		Hg <sup>1,2</sup>	MSW	8760	0.070 mg/dscm or 85% reduction			0.019	0.080	Rule 62-296.416(3)(b)1.b., F.A.C.	
		Pb <sup>1</sup>	MSW	8760	0.44 mg/dscm			0.13	0.58	40 CFR 60.33b(a)(4)	
Be	MSW	8760	9.30 x 10 <sup>-7</sup> lb/mmbtu			3.00E-04	1.20E-03	40 CFR 61.32(a) & PSD-FL-112			
Fl	MSW	8760	.0040 lb/mmbtu			1.2	5.3	PSD-FL-112			

**Table 1-1, Summary of Air Pollutant Standards and Terms**

Wheelabrator North Broward, Inc.  
North Broward Waste-to-Energy Facility

**DRAFT Permit No.:** 0112120-001-AV

**Facility ID No.:** 0112120

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of the permit.

E. U. ID No.	Brief Description	Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions			Equivalent Emissions*		Regulatory Citation(s)	See Permit Condition(s)
					Standard(s)	lbs./hour	TPY	lbs./hour	TPY		
-003	UNIT 3 - Municipal Solid Waste (MSW) Combustor (186,000 lbs/hr - steam) (807 TPD - MSW) (302.5 MMBtu/hour-MSW)	VE	MSW	8760	10%			N/A	N/A	40 CFR 60.33b(a)(1)(iii)	
		PM <sup>1</sup>	MSW	8760	27 mg/dscm			7.35	32.2	40 CFR 60.33b(a)(1)(i)	
		PM <sub>10</sub> <sup>1</sup>	MSW	8760	27 mg/dscm			7.35	32.2	40 CFR 60.33b(a)(1)(i)	
		CO <sup>1</sup>	MSW	8760	100 ppmdv			31.8	139	40 CFR 60.34b(a)	
		NO <sub>x</sub> <sup>1</sup>	MSW	8760	205 ppmdv			107	466	40 CFR 60.33b(d)	
		SO <sub>2</sub> <sup>1,2</sup>	MSW	8760	29 ppmdv or 75% reduction			33	144	40 CFR 60.33b(b)(3)(i)	
		HCl <sup>1,2</sup>	MSW	8760	29 ppmdv or 95% reduction			12	51	40 CFR 60.33b(b)(3)(ii)	
		dioxin/furan <sup>1</sup>	MSW	8760	30 ng/dscm (total mass)			8.2E-08	3.6E-05	40 CFR 60.33b(c)(1)(ii)	
		Cd <sup>1</sup>	MSW	8760	0.040 mg/dscm			0.011	0.048	40 CFR 60.33b(a)(2)(i)	
		Hg <sup>1,2</sup>	MSW	8760	0.070 mg/dscm or 85% reduction			0.019	0.080	Rule 62-296.416(3)(b)1.b., F.A.C.	
		Pb <sup>1</sup>	MSW	8760	0.44 mg/dscm			0.13	0.58	40 CFR 60.33b(a)(4)	
Be	MSW	8760	9.30 x 10 <sup>-7</sup> lb/mmbtu			3.00E-04	1.20E-03	40 CFR 61.32(a) & PSD-FL-112			
Fl	MSW	8760	.0040 lb/mmbtu			1.2	5.3	PSD-FL-112			
-004	Lime Silo	VE		8760	shall not exceed 5%			N/A	N/A	Rule 62-297.620(4), F.A.C.	
		PM		8760	0.010 gr/dscf		0.021	0.13		AC 186998	
-005	Ash Handling System	VE		8760	shall not exceed 5%			N/A	N/A	Rule 62-297.620(4), F.A.C.	
		PM		8760	0.010 gr/dscf		3.0	0.69		AC 186997	

**Notes:**

\* The "Equivalent Emissions" listed are for informational purposes.

1. Corrected to 7% O<sub>2</sub>
2. Whichever is least stringent.



**Table 2-1, Summary of Compliance Requirements**

**Table 2-1, Summary of Compliance Requirements**

Wheelabrator North Broward, Inc.  
North Broward Waste-to-Energy Facility

**DRAFT Permit No.:** 0112120-001-AV  
**Facility ID No.:** 0112120

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

E. U. ID No.	Brief Description	Pollutant Name or Parameter	Fuel(s)	Compliance Method	Testing Time	Frequency	Min. Compliance	CMS <sup>1</sup>	See Permit Condition(s)
					Frequency	Base Date	Test Duration		
-001	Municipal Solid Waste (MSW) Combustors (186,000 lbs/hr - steam) (807 TPD - MSW) (302.5 MMBtu/hour - MSW)	VE	MSW	EPA Method 5	Annually		30 minutes	Yes	
-002		VE- Fugitive Ash		EPA Method 22	Annually		1 hour	No	
-003		PM							
		PM <sub>10</sub>	MSW	EPA Method 9	Annually		1 hour	No	
		CO	MSW	EPA Method 10, 10A, 10B	Daily		1 hour	Yes	
		NO <sub>x</sub>	MSW	EPA Method 19	Daily		1 hour	Yes	
		SO <sub>2</sub>	MSW	EPA Method 19	Daily		1 hour	Yes	
		HCl	MSW	EPA Method 26, 26A	Annually		1 hour	No	
		dioxin/furan	MSW	EPA Method 23	Annually <sup>2</sup>		N/A	No	
		Cd	MSW	EPA Method 29	Annually		1 hour	No	
		Hg	MSW	EPA Method 29 or 101A	Quarterly		1 hour	No	
		Pb	MSW	EPA Method 29 or 12	Annually		1 hour	No	
	Be	MSW	EPA Method 29, 103 or 104	Every 5 years		N/A	No		
	Fl	MSW	EPA Method 13A, 13B	Every 5 years		1 hour	No		
-004	Lime Silo	VE		EPA Method 5	Annually		30 minutes	No	
		PM		EPA Method 9	Every 5 years <sup>3</sup>		1 hour	No	
-005	Ash Handling System	VE		EPA Method 5	Annually		60 minutes	No	
		PM		EPA Method 9	Every 5 years <sup>3</sup>		1 hour	No	

**Notes:**

1. CMS [=] continuous monitoring system used for monitoring requirement in lieu of fuel sampling and analysis if marked 'yes'.  
(Acceptable as long as CMS is maintained and calibrated as required.)
2. Test at least one unit annually, subject to 40 CFR 60.58b(g) requirements.
3. Particulate matter tests are not required unless visible emissions tests indicate standards have been violated.

MEMORANDUM

TO: Scott Sheplak, P. E.  
THRU: Jonathan Holtom, P.E.  
FROM: Wendy Alexander  
DATE: October 21, 1999

Re: Intent package for DRAFT Permit No.: 0112120-001-AV

Wheelabrator North Broward Inc.  
North Broward Waste-to-Energy Facility

**Permit Clock:** Initial Title V air operation permit, Not on Clock

This permit is for the initial Title V air operation permit for the North Broward Waste-to-Energy Facility. This facility primarily burns municipal solid waste (MSW) and is not regulated under the Acid Rain Program.

This facility consists of three municipal waste combustors (MWCs) with auxiliary fossil fuel-fired burners designated as Units 1, 2, and 3, lime storage and processing facilities, ash storage and processing facilities, a cooling tower, and ancillary support equipment. The three MWCs are regulated under NSPS - 40 CFR 60, Subpart Cb, Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors That Are Constructed on or Before September 20, 1994, NSPS - 40 CFR 60, Subpart E, Standards of Performance for Incinerators, and NESHAP - 40 CFR 61, Subpart C, NESHAP for Beryllium.

This facility is located in an air quality maintenance area for ozone. The three MWCs are not regulated under 62-296.500, F.A.C., Reasonably Available Control Technology (RACT) - Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) emitting facilities since they were subject to review pursuant to 40 CFR 52.21, 62-212.400, and 62-212.500, F.A.C. The remaining units at the facility are not sources of VOC and NO<sub>x</sub>.

Municipal solid waste is the primary fuel for Units 1, 2, and 3. Natural gas or distillate fuel oil is used as supplemental fuel in all three MWCs for start-up, shutdown, and when consistent with good combustion practices. The total generating capacity of the facility is 67.6 megawatts.

The original application was received complete June 17, 1996. Comments were not received from the local office. This is the initial operation permit for this facility. Compliance has been demonstrated with the requirements of the air construction permit.

I recommend that this Intent to Issue be sent out as attached.