

WEST VIRGINIA  
SECRETARY OF STATE

JOE MANCHIN, III

ADMINISTRATIVE LAW DIVISION

FORM #4

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OFFICE OF WEST VIRGINIA  
SECRETARY OF STATE

NOTICE OF RULE MODIFICATION OF A PROPOSED RULE

AGENCY: Division of Environmental Protection, Office of Air Quality TITLE NUMBER: 45

CITE AUTHORITY: W.Va. Code §22-5-1 et seq.

AMENDMENT TO AN EXISTING RULE: YES  NO

IF YES, SERIES NUMBER OF RULE BEING AMENDED: 6

TITLE OF RULE BEING AMENDED: To Prevent And Control Air Pollution From  
Combustion of Refuse

IF NO, SERIES NUMBER OF NEW RULE BEING PROPOSED: \_\_\_\_\_

TITLE OF RULE BEING PROPOSED: \_\_\_\_\_

THE ABOVE PROPOSED LEGISLATIVE RULE, FOLLOWING REVIEW BY THE LEGISLATIVE RULE  
MAKING REVIEW COMMITTEE IS HEREBY MODIFIED AS A RESULT OF REVIEW AND COMMENT  
BY THE LEGISLATIVE RULE-MAKING REVIEW COMMITTEE. THE ATTACHED MODIFICATIONS ARE  
FILED WITH THE SECRETARY OF STATE.

*Carrie J. Chambers*

Authorized Signature

\$5.40



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## West Virginia Bureau of Environment

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Bob Wise  
Governor

Randy Huffman  
Acting Commissioner

January 18, 2001

Ms. Judy Cooper  
Director, Administrative Law  
Division  
Secretary of State's Office  
Capitol Complex  
Charleston, WV 25305

RE: 45CSR6 - "To Prevent and Control Air Pollution From  
Combustion of Refuse"

Dear Ms. Cooper:

This letter will serve as my approval to file the above-referenced rule with your Office and the Legislative Rule-Making Review Committee as "Notice of Rule Modification of a Proposed Rule."

Your cooperation in this request is very much appreciated. If you have any questions or require additional information, please feel free to contact Carrie Chambers in my office at 759-0515.

Sincerely yours,

Randy Huffman  
Acting Commissioner

RH:cc

cc: Karen Watson  
Carrie Chambers

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JAN 18 9 57 AM '01

OFFICE OF WEST VIRGINIA  
SECRETARY OF STATE

TITLE 45  
LEGISLATIVE RULE  
DIVISION OF ENVIRONMENTAL PROTECTION  
OFFICE OF AIR QUALITY

SERIES 6  
TO PREVENT AND CONTROL AIR POLLUTION  
FROM COMBUSTION OF REFUSE

§45-6-1. General.

1.1. Scope.

1.1.a. The purpose of this rule is to prevent and control air pollution from combustion of refuse. Neither compliance with the provisions of this rule nor the absence of specific language to cover particular situations constitutes approval or implies consent or condonement of any emission which is released in any locality in such manner or amount as to cause or contribute to undesirable levels of air contaminants. Neither does it exempt nor excuse anyone from complying with other applicable laws, ordinances, regulations or orders of governmental entities having jurisdiction.

1.1.b. All persons engaged in any form of combustion of refuse shall give careful consideration to the effects of the resultant emissions on the air quality of the area(s) affected by such burning. Important considerations include, but are not limited to, the location and time of burning, the type of material being burned and the potential emissions and the prevailing meteorological conditions. Persons failing to give due consideration to these factors will be in violation of this rule.

1.1.c. It is the intent of the Director that all incorporated areas and other local governmental entities prohibit open burning and develop alternative methods for disposal of waste material. If such action is not taken in any air basin, air quality control region or other such areas as the Director may designate, then such action may be taken by the Director to insure compliance with air quality standards.

1.2. Authority. -- W. Va. Code §22-5-1 et seq.

1.3. Filing Date. -- ~~June 2, 2000~~

1.4. Effective Date. -- ~~August 31, 2000~~

1.5. Former Rules -- This legislative rule amends 45CSR6 "To Prevent and Control Air Pollution From Combustion of Refuse" which was filed on ~~April 1, 1995~~ June 2, 2000, and which became effective ~~May 1, 1995~~ August 31, 2000.

§45-6-2. Definitions.

2.1. "Air Curtain Incinerator" means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. (Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.)

2.2. "Air Pollution", 'statutory air pollution' shall have the meaning ascribed to it in W. Va. Code §22-5-2.

2.3. "Air Pollution Control Equipment" means any equipment used for collecting or converting gasborne particulate or gaseous materials for the purpose of preventing or reducing emission of these materials into the open air.

2.4. "Clean Lumber" means wood or wood products that have been cut or shaped and include

wet, air-dried, and kiln-dried wood products. Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote.

2.35. "Director" means the director of the division of environmental protection or such other person to whom the director has delegated authority or duties pursuant to W. Va. Code §§22-1-6 or 22-1-8.

2.46. "Flare", 'flare stack' means and includes a combustion source normally comprised of, but not limited to, a length of stack or pipe which has an attached burner mechanism designed to destroy liquid or gaseous material with an open or semi-enclosed flame.

2.57. "Incineration" means the destruction of combustible refuse by burning in a furnace designed for that purpose. For the purposes of this rule, the destruction of any combustible liquid or gaseous material by burning in a flare/flare, thermal oxidizer or thermal catalytic oxidizer stack shall be considered incineration.

2.68. "Incinerator" means any device used to accomplish incineration.

2.79. "Incinerator Capacity" shall be the manufacturer's or designer's guaranteed maximum charging rate or such other rate as may be determined by the Director in accordance with good engineering practices. In case of conflict the determination by the Director shall govern. For the purpose of this rule, the total of the capacities of all furnaces within one system shall be considered as the "Incinerator Capacity".

2.810. "Industrial Waste Incinerator" means an incinerator which is used to incinerate gaseous, liquid, semi-liquid and/or solid by-product waste from industrial sources.

2.911. "Land Clearing Debris" means that vegetative material generated by clearing of land for purposes of preparation for development, construction, mining or other such activity. Non-

vegetative refuse is not included in this meaning.

2.1012. "Opacity" means the degree to which smoke and/or particulate matter emissions reduce the transmission of light and obscure the view of an object in the background.

2.1113. "Open Burning" means the combustion of refuse whereby the gaseous products of combustion are not conveyed through man-made means from one point to another and are discharged directly to the open air. This term includes "burn barrels," and ~~air-curtain incinerators.~~

2.1214. "Particulate Matter" means any material, except uncombined water, that exists in a finely divided form as a liquid or solid.

2.1315. "Pathological Waste Incinerator" means an incinerator used to dispose of animal and/or human tissue, bandages, medical wastes and medical laboratory wastes.

2.1416. "Person" means any and all persons, natural or artificial, including the state of West Virginia or any other state, the United States of America, any municipal, statutory, public or private corporation organized or existing under the laws of this or any other state or country, and any firm, partnership or association of whatever nature.

2.1517. "Refuse" means the useless and/or unwanted or discarded solid, liquid and/or gaseous waste materials resulting from community, commercial, industrial or citizen activities.

2.1618. "Sewage Sludge Incinerator" means an incinerator which is used to incinerate the sludge produced by municipal or industrial sewage treatment plants.

2.1719. "Smoke" means small gasborne and airborne particles emitted as the result of the combustion of refuse in sufficient numbers to be visible.

2.20. "Wood Waste" means untreated wood and untreated wood products, including tree stumps

(whole or chipped), trees, tree limbs (whole or chipped), bark, sawdust, chips, scraps, slabs, millings and shavings. Wood waste does not include:

2.20.a. Yard waste;

2.20.b. Construction, renovation, or demolition wastes; or

2.20.c. Clean lumber.

2.21. "Yard Waste" means grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands.

2.1822. Other words and phrases used in this rule, unless otherwise indicated, shall have the meaning ascribed to them in W. Va. Code §22-5-1 et seq.

#### **§45-6-3. Open Burning Prohibited.**

3.1. General Provisions -- The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except for the following exemptions:

3.1.a. Vegetation grown on the premises of a home or farm, provided that there is compliance with the provisions of subdivision 1.1.b, and the health, safety, comfort and property of persons are protected from the effects of such burning.

3.1.b. Fires set for the purpose of bona fide instruction and training of public and industrial employees and members of volunteer fire departments in the methods of fighting fires, provided that approval to conduct such burning is received from the Director or the Director's duly authorized representative. Burning of structures for fire training is subject to specific requirements of 45CSR15, in particular, 40 CFR Part 61 Subpart M.

3.1.c. Open burning of land clearing

debris provided that all the following conditions are met:

3.1.c.1. There is no practical alternate method for the disposal of the material to be burned;

3.1.c.2. The health, safety, comfort and property of persons are protected from the effects of such burning; and

~~3.1.c.3. Such burning shall not be conducted for salvage purposes; and~~

3.1.c.4. Approval to conduct such burning is received from the Director or the Director's duly authorized representative.

3.1.d. Open burning of propellant and explosive wastes, provided that the open burning is conducted in accordance with 45CSR25.

3.2. The exemptions listed in subsection 3.1 are subject to the following stipulation:

3.2.a. Upon notification by the Director, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Director may deem necessary and feasible.

#### **§45-6-4. Emission Standards for Incinerators and Incineration.**

4.1. No person shall cause, suffer, allow or permit particulate matter to be discharged from any incinerator into the open air in excess of the quantity determined by use of the following formula:

$$\text{Emissions (lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

Where, the factor, F, is as indicated in Table I below:

**Table I: Factor, F, for Determining Maximum Allowable Particulate Emissions**

Incinerator Capacity	Factor F
A. Less than 15,000 lbs/hr	5.43
B. 15,000 lbs/hr or greater	2.72

4.2. After September 1, 1969, in the Counties of Brooke, Hancock, Ohio, Marshall and Kanawha; and the Magisterial Districts of Valley (Fayette County), Scott and Pocatalico (Putnam County), Tygart (Wood County), the City of Fairmont and those portions of Union and Winfield Magisterial Districts west of I-79 (Marion County), no person shall cause, suffer, allow or permit the operation of any incinerator during the period starting one (1) hour before sunset and extending until two (2) hours after sunrise. This subsection shall not apply to the operation of pathological, industrial, municipal or sewage sludge incinerators.

4.3. Emission of Visible Particulate Matter -- No person shall cause, suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater.

4.4. The provisions of subsection 4.3 shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up, or six (6) minutes in any sixty (60)-minute period for stoking operations.

4.5. No person shall cause, suffer, allow or permit the emission of particles of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air.

4.6. Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.

4.7. Incineration of Residues and Hazardous Materials--Persons responsible for the incineration of hazardous materials such as insecticides, empty insecticide containers, toxic materials, certain chemical residues, explosives, used bandages and

other medical wastes, pathological wastes, human and animal remains and other like materials shall give the utmost care and consideration to the potential harmful effects of the emissions resulting from such activities. Evaluation of these facilities as to adequacy, efficiency and emission potential will be made on an individual basis by the Director, working in conjunction with other appropriate governmental agencies.

4.8. Air Curtain Incinerators -- Notwithstanding any other provisions in this rule, the construction, modification, siting, and operation of air curtain incinerators shall be subject only to sections 9, 10, 11 and the following requirements:

4.8.a. Incinerators as defined and regulated in 40 CFR Part 60, Subparts Eb, CCCC (65 FR75338, December 1, 2000) and AAAA (65FR76350, December 6, 2000) shall comply with applicable requirements set forth in those regulations. The requirements of 40 CFR Part 60 Subparts CCCC and AAAA as related to air curtain incinerators are hereby incorporated by reference. All notices, reports and other information required to be submitted to the Administrator of the United States Environmental Protection Agency pursuant to 40 CFR Part 60, Subparts Eb, CCCC and AAAA shall also be submitted to the Director.

4.8.b. Only land clearing debris, wood waste, clean lumber or yard waste as defined in this rule or 40 CFR Part 60, Subparts Eb, CCCC and AAAA may be burned by an air curtain incinerator.

4.8.c. Except as provided in subdivision 4.8.e, construction or modification of an air curtain incinerator shall be subject to the permitting requirements of 45CSR13, 45CSR14, or 45CSR19, as applicable.

4.8.d. Except for incinerators subject to subdivision 4.8.e, air curtain incinerators not subject to subdivision 4.8.a shall comply with emission control, reporting, and recordkeeping requirements identical to those set forth under 40 CFR §60.2250, 40 CFR §60.2255, and 40 CFR

§60.2260. Reports, notices, and other information required to be submitted to the Administrator of the United States Environmental Protection Agency under those cited sections must only be submitted to the Director.

4.8.e. Air curtain incinerators not subject to subdivision 4.8.a that are temporarily sited and operated for the disposal of on-site land clearing debris are not subject to the emission standards of this rule or to preconstruction permitting requirements, provided that the following conditions are met:

4.8.e.1. There is no practical alternative method for the disposal of the material to be burned;

4.8.e.2. The health, safety, comfort and property of persons are protected from the effects of such burning;

4.8.e.3. Approval to conduct such burning is received from the director or the director's duly authorized representative; and

4.8.e.4. The air curtain incinerator is not subject to the requirements of 45CSR14 or 45CSR19.

4.8.f. Air curtain incinerators subject to the requirements of 45CSR30 shall apply for and obtain an operating permit in accordance with the provisions of 45CSR30.

#### **§45-6-5. Registration.**

5.1. Within thirty (30) days after the effective date of this rule, all persons owning and/or operating incinerators within the state shall have registered with the Director on forms made available by the Director, the name of the person, company or corporation operating the plant, the address, location, county, ownership (lessee, lessor), the principal officer of the company and any such other reasonable information as the Director may require including, but not limited to, make, model, capacity, operating temperature, fuel used, stack parameters and description of air

pollution control equipment.

#### **§45-6-6. Permits.**

6.1. No person shall construct, modify or relocate any incinerator without first obtaining a permit in accordance with the provisions of W. Va. Code §§22-5-1 et seq., and 45CSR13-, 45CSR14-, and 45CSR19, as applicable, provided that, and notwithstanding the provisions of 45CSR13, flares and flare stacks meeting the following requirements shall not be required to obtain a permit under 45CSR13:

6.1.a. Temporary flares used in conjunction with maintenance and repair of natural gas pipelines, combusting only the gas contained therein, which meet the following conditions:

6.1.a.1. The flare or flare stack exists on-site for a cumulative period of less than thirty (30) days in any twelve (12) consecutive month period;

6.1.a.2. The maximum emissions from the flare or flare stack, based on the potential to emit for the period of time that the flare or flare stack is in use, do not exceed the threshold amounts specified in the definitions of "stationary source" and "modification" in 45CSR13;

6.1.a.3. The flare or flare stack is not subject to the requirements of 40 CFR Parts 60, 61, or 63, or 45CSR14 or 45CSR19; and

6.1.a.4. The source maintains records of emissions, monitoring results or other records sufficient to determine compliance with the requirements of paragraphs 6.1.a.1 through 6.1.a.3 for a minimum period of three (3) years and makes such records available upon the Director's request.

6.1.b. Temporary flares, other than those identified in subdivision 6.1.a, which meet the following conditions:

6.1.b.1. The flare or flare stack exists on-site for a cumulative period of less than ten (10) days in any twelve (12) consecutive month period;

6.1.b.2. The maximum emissions from the flare or flare stack, based on the potential to emit for the period of time that the flare or flare stack is in use, do not exceed the threshold amounts specified in the definitions of "stationary source" and modification" in 45CSR13;

6.1.b.3. The flare or flare stack is not subject to the requirements of 40 CFR Parts 60, 61, or 63, or 45CSR14 or 45CSR19;

6.1.b.4. The flare or flare stack meets all of the general control device requirements of 40 CFR §60.18, including, but not limited to, the requirement to monitor the flare to ensure it is operated and maintained in conformance with its design and the opacity standard in 40 CFR §60.18(c)(1);

6.1.b.5. The flare or flare stack is designed and operated in a manner to prevent violations of any national ambient air quality standards;

6.1.b.6. The source notifies the Director within ten (10) working days of locating any flare or flare stack on-site, which notification shall include the location and anticipated duration that such flare will remain on-site; and

6.1.b.7. The source maintains records of emissions, monitoring results or other records sufficient to determine compliance with the requirements of paragraphs 6.1.b.1 through 6.1.b.6 for a minimum period of three (3) years and makes such records available upon the Director's request.

#### **§45-6-7. Reports and Testing.**

7.1. At such reasonable times as the Director may designate, the operator of any incinerator shall be required to conduct or have conducted stack tests to determine the particulate matter loading, by using 40 CFR Part 60, Appendix A, Method 5 or other equivalent EPA approved method approved by the Director, in exhaust gases. Such tests shall be conducted in such manner as the Director may specify and be filed on forms and in a manner acceptable to the Director. The Director, or the

Director's authorized representative, may at the Director's option witness or conduct such stack tests. Should the Director exercise his option to conduct such tests, the operator will provide all the necessary sampling connections and sampling ports to be located in such manner as the Director may require, power for test equipment and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices.

7.2. The Director, or the Director's duly authorized representative, may conduct such other tests as the Director may deem necessary to evaluate air pollution emissions other than those noted above.

#### **§45-6-8. Variances.**

8.1. If it can be demonstrated to the Director that the disposal of certain materials by any method other than burning leads to ground water contamination, then the person responsible for the disposal of such materials shall submit to the Director within sixty (60) days a program leading to the construction of a suitable incinerator. If such program is accepted by the Director, the person shall not be in violation as long as the program is observed.

8.2. Due to unavoidable malfunction of equipment, emissions exceeding those provided for in this rule may be permitted by the Director for periods not to exceed five (5) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.

#### **§45-6-9. Emergencies and Natural Disasters.**

9.1. In situations involving flood, tornado or other natural disaster the Director may, based on demonstrated need, allow open burning or incineration of vegetation, building debris and other non-hazardous debris from such natural disaster

which would otherwise be subject to the requirements of sections 3, 4 or 6 of this rule, provided that:

9.1.a. There is no practical alternative method for disposal of the material to be burned; and

9.1.b. The health, safety, comfort and property of persons are protected from such burning.

**§45-6-10. Effect of the Rule.**

10.1. Nothing in this rule shall be construed to allow or permit the installation, establishment or construction of a new municipal or commercial solid waste facility utilizing incineration technology for the purpose of solid waste incineration in violation of W. Va. Code §22-15- 19.

**§45-46-911. Inconsistency Between Rules.**

911.1. In the event of any inconsistency between this rule and any other existing rule of the West Virginia Division of Environmental Protection, such inconsistency shall be resolved by the determination of the Director and such determination shall be based upon the application of the more stringent provision, term, condition, method or rule.

**§ 60.2225 What else must I report if I have a deviation from the requirement to have a qualified operator accessible?**

(a) If all qualified operators are not accessible for 2 weeks or more, you must take the two actions in paragraphs (a)(1) and (2) of this section.

(1) Submit a notification of the deviation within 10 days that includes the three items in paragraphs (a)(1)(i) through (iii) of this section.

(i) A statement of what caused the deviation.

(ii) A description of what you are doing to ensure that a qualified operator is accessible.

(iii) The date when you anticipate that a qualified operator will be available.

(2) Submit a status report to the Administrator every 4 weeks that includes the three items in paragraphs (a)(2)(i) through (iii) of this section.

(i) A description of what you are doing to ensure that a qualified operator is accessible.

(ii) The date when you anticipate that a qualified operator will be accessible.

(iii) Request approval from the Administrator to continue operation of the CISWI unit.

(b) If your unit was shut down by the Administrator, under the provisions of § 60.2100(b)(2), due to a failure to provide an accessible qualified operator, you must notify the Administrator that you are resuming operation once a qualified operator is accessible.

**§ 60.2230 Are there any other notifications or reports that I must submit?**

Yes. You must submit notifications as provided by § 60.7.

**§ 60.2235 In what form can I submit my reports?**

Submit initial, annual, and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.

**§ 60.2240 Can reporting dates be changed?**

If the Administrator agrees, you may change the semiannual or annual reporting dates. See § 60.19(c) for procedures to seek approval to change your reporting date.

**Title V Operating Permits**

**§ 60.2242 Am I required to apply for and obtain a title V operating permit for my unit?**

Yes. Each CISWI unit must operate pursuant to a permit issued under section 129(e) and title V of the Clean Air Act by the later of the two dates in paragraphs (a) and (b) of this section.

(a) Thirty-six months after December 1, 2000.

(b) The effective date of the title V permit program to which your unit is subject. If your unit is subject to title V as a result of some triggering requirement(s) other than this subpart (for example, being a major source), then your unit may be required to apply for and obtain a title V permit prior to the deadlines noted above. If more than one requirement triggers the requirement to apply for a title V permit, the 12-month timeframe for filing a title V application is triggered by the requirement which first causes the source to be subject to title V.

**Air Curtain Incinerators**

**§ 60.2245 What is an air curtain incinerator?**

(a) An air curtain incinerator operates by forcefully projecting a curtain of air across an open chamber or open pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. (Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.)

(b) Air curtain incinerators that burn only the materials listed in paragraphs (b)(1) through (3) of this section are only required to meet the requirements under "Air Curtain Incinerators" (§§ 60.2245 through 60.2260).

- (1) 100 percent wood waste.
- (2) 100 percent clean lumber.
- (3) 100 percent mixture of only wood waste, clean lumber, and/or yard waste.

**§ 60.2250 What are the emission limitations for air curtain incinerators?**

(a) Within 60 days after your air curtain incinerator reaches the charge rate at which it will operate, but no later than 180 days after its initial startup, you must meet the two limitations specified in paragraphs (a)(1) and (2) of this section.

(1) The opacity limitation is 10 percent (6-minute average), except as described in paragraph (a)(2) of this section.

(2) The opacity limitation is 35 percent (6-minute average) during the startup period that is within the first 30 minutes of operation.

(b) Except during malfunctions, the requirements of this subpart apply at all times, and each malfunction must not exceed 3 hours.

**§ 60.2255 How must I monitor opacity for air curtain incinerators?**

(a) Use Method 9 of appendix A of this part to determine compliance with the opacity limitation.

(b) Conduct an initial test for opacity as specified in § 60.8.

(c) After the initial test for opacity, conduct annual tests no more than 12 calendar months following the date of your previous test.

**§ 60.2260 What are the recordkeeping and reporting requirements for air curtain incinerators?**

(a) Prior to commencing construction on your air curtain incinerator, submit the three items described in paragraphs (a)(1) through (3) of this section.

(1) Notification of your intent to construct the air curtain incinerators.

(2) Your planned initial startup date.

(3) Types of materials you plan to burn in your air curtain incinerator.

(b) Keep records of results of all initial and annual opacity tests onsite in either paper copy or electronic format, unless the Administrator approves another format, for at least 5 years.

(c) Make all records available for submittal to the Administrator or for an inspector's onsite review.

(d) You must submit the results (each 6-minute average) of the initial opacity tests no later than 60 days following the initial test. Submit annual opacity test results within 12 months following the previous report.

(e) Submit initial and annual opacity test reports as electronic or paper copy on or before the applicable submittal date.

(f) Keep a copy of the initial and annual reports onsite for a period of 5 years.

**Definitions**

**§ 60.2265 What definitions must I know?**

Terms used but not defined in this subpart are defined in the Clean Air Act and subpart A (General Provisions) of this part.

*Administrator* means the Administrator of the U.S. Environmental Protection Agency or his/her authorized representative or Administrator of a State Air Pollution Control Agency.

*Agricultural waste* means vegetative agricultural materials such as nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds, and other vegetative waste materials generated as a result of agricultural operations.

*Air curtain incinerator* means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and

floor. (Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.)

*Auxiliary fuel* means natural gas, liquified petroleum gas, fuel oil, or diesel fuel.

*Bag leak detection system* means an instrument that is capable of monitoring particulate matter loadings in the exhaust of a fabric filter (i.e., baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

*Calendar quarter* means three consecutive months (nonoverlapping) beginning on: January 1, April 1, July 1, or October 1.

*Calendar year* means 365 consecutive days starting on January 1 and ending on December 31.

*Chemotherapeutic waste* means waste material resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells.

*Clean lumber* means wood or wood products that have been cut or shaped and include wet, air-dried, and kiln-dried wood products. Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote.

*Commercial and industrial solid waste incineration (CISWI) unit* means any combustion device that combusts commercial and industrial waste, as defined in this subpart. The boundaries of a CISWI unit are defined as, but not limited to, the commercial or industrial solid waste fuel feed system, grate system, flue gas system, and bottom ash. The CISWI unit does not include air pollution control equipment or the stack. The CISWI unit boundary starts at the commercial and industrial solid waste hopper (if applicable) and extends through two areas:

(1) The combustion unit flue gas system, which ends immediately after the last combustion chamber.

(2) The combustion unit bottom ash system, which ends at the truck loading station or similar equipment that transfers the ash to final disposal. It includes all ash handling systems connected to the bottom ash handling system.

*Commercial and industrial waste* means solid waste combusted in an enclosed device using controlled flame

combustion without energy recovery that is a distinct operating unit of any commercial or industrial facility (including field-erected, modular, and custom built incineration units operating with starved or excess air), or solid waste combusted in an air curtain incinerator without energy recovery that is a distinct operating unit of any commercial or industrial facility.

*Contained gaseous material* means gases that are in a container when that container is combusted.

*Cyclonic barrel burner* means a combustion device for waste materials that is attached to a 55 gallon, open-head drum. The device consists of a lid, which fits onto and encloses the drum, and a blower that forces combustion air into the drum in a cyclonic manner to enhance the mixing of waste material and air.

*Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation, operating limit, or operator qualification and accessibility requirements;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation, operating limit, or operator qualification and accessibility requirement in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

*Dioxins/furans* means tetra- through octachlorinated dibenzo-p-dioxins and dibenzofurans.

*Discard* means, for purposes of this subpart and 40 CFR part 60, subpart DDDD, only, burned in an incineration unit without energy recovery.

*Drum reclamation unit* means a unit that burns residues out of drums (e.g., 55 gallon drums) so that the drums can be reused.

*Energy recovery* means the process of recovering thermal energy from combustion for useful purposes such as steam generation or process heating.

*Fabric filter* means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.

*Low-level radioactive waste* means waste material which contains radioactive nuclides emitting primarily beta or gamma radiation, or both, in

concentrations or quantities that exceed applicable Federal or State standards for unrestricted release. Low-level radioactive waste is not high-level radioactive waste, spent nuclear fuel, or byproduct material as defined by the Atomic Energy Act of 1954 (42 U.S.C. 2014(e)(2)).

*Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions.

*Modification* or *modified CISWI unit* means a CISWI unit you have changed later than June 1, 2001 and that meets one of two criteria:

(1) The cumulative cost of the changes over the life of the unit exceeds 50 percent of the original cost of building and installing the CISWI unit (not including the cost of land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI unit used to calculate these costs, see the definition of CISWI unit.

(2) Any physical change in the CISWI unit or change in the method of operating it that increases the amount of any air pollutant emitted for which section 129 or section 111 of the Clean Air Act has established standards.

*Part reclamation unit* means a unit that burns coatings off parts (e.g., tools, equipment) so that the parts can be reconditioned and reused.

*Particulate matter* means total particulate matter emitted from CISWI units as measured by Method 5 or Method 29 of appendix A of this part.

*Pathological waste* means waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable).

*Rack reclamation unit* means a unit that burns the coatings off racks used to hold small items for application of a coating. The unit burns the coating overspray off the rack so the rack can be reused.

*Reconstruction* means rebuilding a CISWI unit and meeting two criteria:

(1) The reconstruction begins on or after June 1, 2001.

(2) The cumulative cost of the construction over the life of the incineration unit exceeds 50 percent of the original cost of building and installing the CISWI unit (not including land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI unit

used to calculate these costs, see the definition of CISWI unit.

*Refuse-derived fuel* means a type of municipal solid waste produced by processing municipal solid waste through shredding and size classification. This includes all classes of refuse-derived fuel including two fuels:

(1) Low-density fluff refuse-derived fuel through densified refuse-derived fuel.

(2) Pelletized refuse-derived fuel.

*Shutdown* means the period of time after all waste has been combusted in the primary chamber.

*Solid waste* means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations, and from community

activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1342), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014). For purposes of this subpart and 40 CFR part 60, subpart DDDD, only, solid waste does not include the waste burned in the fifteen types of units described in § 60.2020.

*Standard conditions*, when referring to units of measure, means a temperature of 68°F (20°C) and a pressure of 1 atmosphere (101.3 kilopascals).

*Startup period* means the period of time between the activation of the system and the first charge to the unit.

*Wet scrubber* means an add-on air pollution control device that utilizes an aqueous or alkaline scrubbing liquor to collect particulate matter (including nonvolatile metals and condensed organics) and/or to absorb and neutralize acid gases.

*Wood waste* means untreated wood and untreated wood products, including tree stumps (whole or chipped), trees, tree limbs (whole or chipped), bark, sawdust, chips, scraps, slabs, millings, and shavings. Wood waste does not include:

(1) Grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands.

(2) Construction, renovation, or demolition wastes.

(3) Clean lumber.

TABLE 1 TO SUBPART CCCC—EMISSION LIMITATIONS

For the air pollutant	You must meet this emission limitation <sup>a</sup>	Using this averaging time	And determining compliance using this method
Dioxins/furans (toxic equivalency basis).	0.41 nanograms per dry standard cubic meter.	3-run average (1 hour minimum sample time per run).	Performance test (Method 23 of Appendix A of this part).
Hydrogen chloride .....	62 parts per million by dry volume	3-run average (1 hour volume minimum sample time per run).	Performance test (Method 26A of appendix A of this part).
Lead .....	0.04 milligrams per dry standard cubic meter.	3-run average (1 hour minimum sample time per run).	Performance test (Method 29 of appendix A of this part).
Mercury .....	0.47 milligrams per dry standard cubic meter.	3-run average (1 hour minimum sample time per run).	Performance test (Method 29 of appendix A of this part).
Opacity .....	10 percent .....	6-minute averages .....	Performance test (Method 9 of appendix A of this part).
Oxides of nitrogen .....	388 parts per million by dry volume.	3-run average (1 hour minimum sample time per run).	Performance test (Method 7, 7A, 7C, 7D, or 7E of appendix A of this part)
Particulate matter .....	70 milligrams per dry standard cubic meter.	3-run average (1 hour minimum sample time per run).	Performance test (Method 5 or 29 of appendix A of this part).
Sulfur dioxide .....	20 parts per million by dry volume	3-run average (1 hour volume minimum sample time per run).	Performance test (Method 6 or 6c of appendix A of this part).

<sup>a</sup> All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.

TABLE 2 TO SUBPART CCCC—OPERATING LIMITS FOR WET SCRUBBERS

For these operating parameters	You must establish these operating limits	And monitoring using these minimum frequencies		
		Data measurement	Data recording	Averaging time
Charge rate .....	Maximum charge rate .....	Continuous .....	Every hour .....	Daily (batch units) 3-hour rolling (continuous and intermittent units) <sup>a</sup>
Pressure drop across the wet scrubber or amperage to wet scrubber.	Minimum pressure drop or amperage.	Continuous .....	Every 15 minutes .....	3-hour rolling <sup>a</sup>
Scrubber liquor flow rate .....	Minimum flow rate .....	Continuous .....	Every 15 minutes .....	3-hour rolling <sup>a</sup>
Scrubber liquor pH .....	Minimum pH .....	Continuous .....	Every 15 minutes .....	3-hour rolling <sup>a</sup>

<sup>a</sup> Calculated each hour as the average of the previous 3 operating hours.

injection system operating parameter) is less than the highest carbon feed rate established during the most recent mercury and dioxins/furans stack test (as specified in § 60.1370(a)(1)). Include four items:

- (i) Eight-hour average carbon feed rate.
  - (ii) Reasons for occurrences of low carbon feed rates.
  - (iii) The corrective actions you have taken to meet the carbon feed rate requirement.
  - (iv) The calendar date.
- (2) Documentation of each quarter when total carbon purchased and delivered to the municipal waste combustion plant is less than the total required quarterly usage of carbon. If you choose to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at your plant. Include five items:
- (i) Amount of carbon purchased and delivered to the plant.
  - (ii) Required quarterly usage of carbon.
  - (iii) Reasons for not meeting the required quarterly usage of carbon.
  - (iv) The corrective actions you have taken to meet the required quarterly usage of carbon.
  - (v) The calendar date.

**§ 60.1430 Can reporting dates be changed?**

- (a) If the Administrator agrees, you may change the semiannual or annual reporting dates.
- (b) See § 60.19(c) for procedures to seek approval to change your reporting date.

**Air Curtain Incinerators that Burn 100 Percent Yard Waste**

**§ 60.1435 What is an air curtain incinerator?**

An air curtain incinerator operates by forcefully projecting a curtain of air across an open chamber or open pit in which combustion occurs. Incinerators of that type can be constructed above or below ground and with or without refractory walls and floor.

**§ 60.1440 What is yard waste?**

Yard waste is grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs. They come from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands. Yard waste does not include two items:

- (a) Construction, renovation, and demolition wastes that are exempt from

the definition of "municipal solid waste" in § 60.1465.

(b) Clean wood that is exempt from the definition of "municipal solid waste" in § 60.1465.

**§ 60.1445 What are the emission limits for air curtain incinerators that burn 100 percent yard waste?**

If your air curtain incinerator combusts 100 percent yard waste, you must meet only the emission limits in this section.

(a) Within 60 days after your air curtain incinerator reaches the maximum load level at which it will operate, but no later than 180 days after its initial startup, you must meet two limits:

- (1) The opacity limit is 10 percent (6-minute average) for air curtain incinerators that can combust at least 35 tons per day of municipal solid waste and no more than 250 tons per day of municipal solid waste.
  - (2) The opacity limit is 35 percent (6-minute average) during the startup period that is within the first 30 minutes of operation.
- (b) Except during malfunctions, the requirements of this subpart apply at all times. Each malfunction must not exceed 3 hours.

**§ 60.1450 How must I monitor opacity for air curtain incinerators that burn 100 percent yard waste?**

- (a) Use EPA Reference Method 9 in appendix A of this part to determine compliance with the opacity limit.
- (b) Conduct an initial test for opacity as specified in § 60.8.
- (c) After the initial test for opacity, conduct annual tests no more than 13 calendar months following the date of your previous test.

**§ 60.1455 What are the recordkeeping and reporting requirements for air curtain incinerators that burn 100 percent yard waste?**

- (a) Provide a notice of construction that includes four items:
  - (1) Your intent to construct the air curtain incinerator.
  - (2) Your planned initial startup date.
  - (3) Types of fuels you plan to combust in your air curtain incinerator.
  - (4) The capacity of your incinerator, including supporting capacity calculations, as specified in § 60.1460(d) and (e).
- (b) Keep records of results of all opacity tests onsite in either paper copy or electronic format unless the Administrator approves another format.
- (c) Keep all records for each incinerator for at least 5 years.
- (d) Make all records available for submittal to the Administrator or for onsite review by an inspector.

(e) Submit the results (each 6-minute average) of the opacity tests by February 1 of the year following the year of the opacity emission test.

(f) Submit reports as a paper copy on or before the applicable submittal date. If the Administrator agrees, you may submit reports on electronic media.

(g) If the Administrator agrees, you may change the annual reporting dates (see § 60.19(c)).

(h) Keep a copy of all reports onsite for a period of 5 years.

**Equations**

**§ 60.1460 What equations must I use?**

(a) *Concentration correction to 7 percent oxygen.* Correct any pollutant concentration to 7 percent oxygen using equation 1 of this section:

$$C_{7\%} = C_{unc} * (13.9) * (1/(20.9 - CO_2))$$

(Eq. 1)

Where:

$C_{7\%}$  = concentration corrected to 7 percent oxygen.  
 $C_{unc}$  = uncorrected pollutant concentration.  
 $CO_2$  = concentration of oxygen (percent).

(b) *Percent reduction in potential mercury emissions.* Calculate the percent reduction in potential mercury emissions (%P<sub>Hg</sub>) using equation 2 of this section:

$$\%P_{Hg} = (E_i - E_o) * (100/E_i) \text{ (Eq. 2)}$$

Where:

$\%P_{Hg}$  = percent reduction of potential mercury emissions  
 $E_i$  = mercury emission concentration as measured at the air pollution control device inlet, corrected to 7 percent oxygen, dry basis  
 $E_o$  = mercury emission concentration as measured at the air pollution control device outlet, corrected to 7 percent oxygen, dry basis

(c) *Percent reduction in potential hydrogen chloride emissions.* Calculate the percent reduction in potential hydrogen chloride emissions (%P<sub>HCl</sub>) using equation 3 of this section:

$$\%P_{HCl} = (E_i - E_o) * (100/E_i) \text{ (Eq. 3)}$$

Where:

$\%P_{HCl}$  = percent reduction of the potential hydrogen chloride emissions  
 $E_i$  = hydrogen chloride emission concentration as measured at the air pollution control device inlet, corrected to 7 percent oxygen, dry basis  
 $E_o$  = hydrogen chloride emission concentration as measured at the air pollution control device outlet, corrected to 7 percent oxygen, dry basis

(d) *Capacity of a municipal waste combustion unit.* For a municipal waste combustion unit that can operate continuously for 24-hour periods, calculate the municipal waste combustion unit capacity based on 24 hours of operation at the maximum charge rate. To determine the maximum charge rate, use one of two methods:

(1) For municipal waste combustion units with a design based on heat input capacity, calculate the maximum charging rate based on the maximum heat input capacity and one of two heating values:

(i) If your municipal waste combustion unit combusts refuse-derived fuel, use a heating value of 12,800 kilojoules per kilogram (5,500 British thermal units per pound).

(ii) If your municipal waste combustion unit combusts municipal solid waste, use a heating value of 10,500 kilojoules per kilogram (4,500 British thermal units per pound).

(2) For municipal waste combustion units with a design not based on heat input capacity, use the maximum designed charging rate.

(e) *Capacity of a batch municipal waste combustion unit.* Calculate the capacity of a batch municipal waste combustion unit as the maximum design amount of municipal solid waste they can charge per batch multiplied by the maximum number of batches they can process in 24 hours. Calculate the maximum number of batches by dividing 24 by the number of hours needed to process one batch. Retain fractional batches in the calculation. For example, if one batch requires 16 hours, the municipal waste combustion unit can combust 24/16, or 1.5 batches, in 24 hours.

(f) *Quarterly carbon usage.* If you use activated carbon to comply with the dioxins/furans or mercury limits, calculate the required quarterly usage of carbon using equation 4 of this section for plant basis or equation 5 of this section for unit basis:

(1) Plant basis.

$$C = \sum_{i=1}^n f_i * h_i \quad (\text{Eq. 4})$$

Where:

C = required quarterly carbon usage for the plant in kilograms (or pounds).

$f_i$  = required carbon feed rate for the municipal waste combustion unit in kilograms (or pounds) per hour. That is the average carbon feed rate during the most recent mercury or dioxins/furans stack tests (whichever has a higher feed rate).

$h_i$  = number of hours the municipal waste combustion unit was in

operation during the calendar quarter (hours).

n = number of municipal waste combustion units, i, located at your plant.

(2) Unit basis.

$$C = f * h \quad (\text{Eq. 5})$$

Where:

C = required quarterly carbon usage for the unit in kilograms (or pounds).

f = required carbon feed rate for the municipal waste combustion unit in kilograms (or pounds) per hour.

That is the average carbon feed rate during the most recent mercury or dioxins/furans stack tests (whichever has a higher feed rate).

h = number of hours the municipal waste combustion unit was in operation during the calendar quarter (hours).

#### Definitions

##### § 60.1465 What definitions must I know?

Terms used but not defined in this section are defined in the CAA and in subparts A and B of this part.

*Administrator* means the Administrator of the U.S. Environmental Protection Agency or his/her authorized representative or the Administrator of a State Air Pollution Control Agency.

*Air curtain incinerator* means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of that type can be constructed above or below ground and with or without refractory walls and floor.

*Batch municipal waste combustion unit* means a municipal waste combustion unit designed so it cannot combust municipal solid waste continuously 24 hours per day because the design does not allow waste to be fed to the unit or ash to be removed during combustion.

*Calendar quarter* means three consecutive months (nonoverlapping) beginning on: January 1, April 1, July 1, or October 1.

*Calendar year* means 365 (or 366 consecutive days for leap years) consecutive days starting on January 1 and ending on December 31.

*Chief facility operator* means the person in direct charge and control of the operation of a municipal waste combustion unit. That person is responsible for daily onsite supervision, technical direction, management, and overall performance of the municipal waste combustion unit.

*Class I units* mean small municipal waste combustion units subject to this

subpart that are located at municipal waste combustion plants with an aggregate plant combustion capacity greater than 250 tons per day of municipal solid waste. See the definition in this section of "municipal waste combustion plant capacity" for specification of which units at a plant site are included in the aggregate capacity calculation.

*Class II units* mean small municipal waste combustion units subject to this subpart that are located at municipal waste combustion plants with an aggregate plant combustion capacity less than or equal to 250 tons per day of municipal solid waste. See the definition in this section of "municipal waste combustion plant capacity" for specification of which units at a plant site are included in the aggregate capacity calculation.

*Clean wood* means untreated wood or untreated wood products including clean untreated lumber, tree stumps (whole or chipped), and tree limbs (whole or chipped). Clean wood does not include two items:

(1) "Yard waste," which is defined elsewhere in this section.

(2) Construction, renovation, or demolition wastes (for example, railroad ties and telephone poles) that are exempt from the definition of "municipal solid waste" in this section.

*Co-fired combustion unit* means a unit that combusts municipal solid waste with nonmunicipal solid waste fuel (for example, coal, industrial process waste). To be considered a co-fired combustion unit, the unit must be subject to a federally enforceable permit that limits it to combusting a fuel feed stream which is 30 percent or less (by weight) municipal solid waste as measured each calendar quarter.

*Continuous burning* means the continuous, semicontinuous, or batch feeding of municipal solid waste to dispose of the waste, produce energy, or provide heat to the combustion system in preparation for waste disposal or energy production. Continuous burning does not mean the use of municipal solid waste solely to thermally protect the grate or hearth during the startup period when municipal solid waste is not fed to the grate or hearth.

*Continuous emission monitoring system* means a monitoring system that continuously measures the emissions of a pollutant from a municipal waste combustion unit.

*Dioxins/furans* mean tetra- through octachlorinated dibenzo-p-dioxins and dibenzofurans.

*Eight-hour block average* means the average of all hourly emission concentrations or parameter levels when

the municipal waste combustion unit operates and combusts municipal solid waste measured over any of three 8-hour periods of time:

- (1) 12:00 midnight to 8:00 a.m.
- (2) 8:00 a.m. to 4:00 p.m.
- (3) 4:00 p.m. to 12:00 midnight.

*Federally enforceable* means all limits and conditions the Administrator can enforce (including the requirements of 40 CFR parts 60, 61, and 63), requirements in a State's implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

*First calendar half* means the period that starts on January 1 and ends on June 30 in any year.

*Fluidized bed combustion unit* means a unit where municipal waste is combusted in a fluidized bed of material. The fluidized bed material may remain in the primary combustion zone or may be carried out of the primary combustion zone and returned through a recirculation loop.

*Four-hour block average or 4-hour block average* means the average of all hourly emission concentrations or parameter levels when the municipal waste combustion unit operates and combusts municipal solid waste measured over any of six 4-hour periods:

- (1) 12:00 midnight to 4:00 a.m.
- (2) 4:00 a.m. to 8:00 a.m.
- (3) 8:00 a.m. to 12:00 noon.
- (4) 12:00 noon to 4:00 p.m.
- (5) 4:00 p.m. to 8:00 p.m.
- (6) 8:00 p.m. to 12:00 midnight.

*Mass burn refractory municipal waste combustion unit* means a field-erected municipal waste combustion unit that combusts municipal solid waste in a refractory wall furnace. Unless otherwise specified, that includes municipal waste combustion units with a cylindrical rotary refractory wall furnace.

*Mass burn rotary waterwall municipal waste combustion unit* means a field-erected municipal waste combustion unit that combusts municipal solid waste in a cylindrical rotary waterwall furnace.

*Mass burn waterwall municipal waste combustion unit* means a field-erected municipal waste combustion unit that combusts municipal solid waste in a waterwall furnace.

*Materials separation plan* means a plan that identifies a goal and an approach for separating certain components of municipal solid waste for a given service area in order to make the separated materials available for recycling. A materials separation plan may include three items:

(1) Elements such as dropoff facilities, buy-back or deposit-return incentives, curbside pickup programs, or centralized mechanical separation systems.

(2) Different goals or approaches for different subareas in the service area.

(3) No materials separation activities for certain subareas or, if warranted, the entire service area.

*Maximum demonstrated load of a municipal waste combustion unit* means the highest 4-hour block arithmetic average municipal waste combustion unit load achieved during 4 consecutive hours in the course of the most recent dioxins/furans stack test that demonstrates compliance with the applicable emission limit for dioxins/furans specified in this subpart.

*Maximum demonstrated temperature of the particulate matter control device* means the highest 4-hour block arithmetic average flue gas temperature measured at the inlet of the particulate matter control device during 4 consecutive hours in the course of the most recent stack test for dioxins/furans emissions that demonstrates compliance with the limits specified in this subpart.

*Medical/infectious waste* means any waste meeting the definition of "medical/infectious waste" in § 60.51c of subpart E, of this part.

*Mixed fuel-fired (pulverized coal/refuse-derived fuel) combustion unit* means a combustion unit that combusts coal and refuse-derived fuel simultaneously, in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the unit where it is combusted in suspension. That includes both conventional pulverized coal and micropulverized coal.

*Modification or modified municipal waste combustion unit* means a municipal waste combustion unit you have changed after June 6, 2001 and that meets one of two criteria:

(1) The cumulative cost of the changes over the life of the unit exceeds 50 percent of the original cost of building and installing the unit (not including the cost of land) updated to current costs.

(2) Any physical change in the municipal waste combustion unit or change in the method of operating it that increases the emission level of any air pollutant for which new source performance standards have been established under section 129 or section 111 of the CAA. Increases in the emission level of any air pollutant are determined when the municipal waste combustion unit operates at 100 percent of its physical load capability and are measured downstream of all air

pollution control devices. Load restrictions based on permits or other nonphysical operational restrictions cannot be considered in the determination.

*Modular excess-air municipal waste combustion unit* means a municipal waste combustion unit that combusts municipal solid waste, is not field-erected, and has multiple combustion chambers, all of which are designed to operate at conditions with combustion air amounts in excess of theoretical air requirements.

*Modular starved-air municipal waste combustion unit* means a municipal waste combustion unit that combusts municipal solid waste, is not field-erected, and has multiple combustion chambers in which the primary combustion chamber is designed to operate at substoichiometric conditions.

*Municipal solid waste or municipal-type solid waste* means household, commercial/retail, or institutional waste. Household waste includes material discarded by residential dwellings, hotels, motels, and other similar permanent or temporary housing. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes materials discarded by schools, by hospitals (nonmedical), by nonmanufacturing activities at prisons and government facilities, and other similar establishments or facilities. Household, commercial/retail, and institutional waste does include yard waste and refuse-derived fuel. Household, commercial/retail, and institutional waste does not include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which include railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff).

*Municipal waste combustion plant* means one or more municipal waste combustion units at the same location as specified under Applicability (§ 60.1015(a) and (b)).

*Municipal waste combustion plant capacity* means the aggregate municipal waste combustion capacity of all municipal waste combustion units at the plant that are subject to subparts Ea or Eb of this part, or this subpart.

*Municipal waste combustion unit* means any setting or equipment that combusts solid, liquid, or gasified municipal solid waste including, but not limited to, field-erected combustion

units (with or without heat recovery), modular combustion units (starved-air or excess-air), boilers (for example, steam generating units), furnaces (whether suspension-fired, grate-fired, mass-fired, air curtain incinerators, or fluidized bed-fired), and pyrolysis/combustion units. Two criteria further define municipal waste combustion units:

(1) Municipal waste combustion units do not include pyrolysis or combustion units located at a plastics or rubber recycling unit as specified under Applicability (§ 60.1020(h) and (i)). Municipal waste combustion units also do not include cement kilns that combust municipal solid waste as specified under Applicability (§ 60.1020(j)). Municipal waste combustion units also do not include internal combustion engines, gas turbines, or other combustion devices that combust landfill gases collected by landfill gas collection systems.

(2) The boundaries of a municipal waste combustion unit are defined as follows. The municipal waste combustion unit includes, but is not limited to, the municipal solid waste fuel feed system, grate system, flue gas system, bottom ash system, and the combustion unit water system. The municipal waste combustion unit does not include air pollution control equipment, the stack, water treatment equipment, or the turbine-generator set. The municipal waste combustion unit boundary starts at the municipal solid waste pit or hopper and extends through three areas:

(i) The combustion unit flue gas system, which ends immediately after the heat recovery equipment or, if there is no heat recovery equipment, immediately after the combustion chamber.

(ii) The combustion unit bottom ash system, which ends at the truck loading station or similar equipment that transfers the ash to final disposal. It includes all ash handling systems connected to the bottom ash handling system.

(iii) The combustion unit water system, which starts at the feed water pump and ends at the piping that exits the steam drum or superheater.

**Particulate matter** means total particulate matter emitted from municipal waste combustion units as measured using EPA Reference Method 5 in appendix A of this part and the procedures specified in § 60.1300.

**Plastics or rubber recycling unit** means an integrated processing unit for which plastics, rubber, or rubber tires are the only feed materials (incidental contaminants may be in the feed

materials). The feed materials are processed and marketed to become input feed stock for chemical plants or petroleum refineries. The following three criteria further define a plastics or rubber recycling unit:

(1) Each calendar quarter, the combined weight of the feed stock that a plastics or rubber recycling unit produces must be more than 70 percent of the combined weight of the plastics, rubber, and rubber tires that recycling unit processes.

(2) The plastics, rubber, or rubber tires fed to the recycling unit may originate from separating or diverting plastics, rubber, or rubber tires from municipal or industrial solid waste. The feed materials may include manufacturing scraps, trimmings, and off-specification plastics, rubber, and rubber tire discards.

(3) The plastics, rubber, and rubber tires fed to the recycling unit may contain incidental contaminants (for example, paper labels on plastic bottles or metal rings on plastic bottle caps).

**Potential hydrogen chloride emissions** means the level of emissions from a municipal waste combustion unit that would occur from combusting municipal solid waste without emission controls for acid gases.

**Potential mercury emissions** means the level of emissions from a municipal waste combustion unit that would occur from combusting municipal solid waste without controls for mercury emissions.

**Potential sulfur dioxide emissions** means the level of emissions from a municipal waste combustion unit that would occur from combusting municipal solid waste without emission controls for acid gases.

**Pyrolysis/combustion unit** means a unit that produces gases, liquids, or solids by heating municipal solid waste. The gases, liquids, or solids produced are combusted and the emissions vented to the atmosphere.

**Reconstruction** means rebuilding a municipal waste combustion unit and meeting two criteria:

(1) The reconstruction begins after June 6, 2001.

(2) The cumulative cost of the construction over the life of the unit exceeds 50 percent of the original cost of building and installing the municipal waste combustion unit (not including land) updated to current costs (current dollars). To determine what systems are within the boundary of the municipal waste combustion unit used to calculate those costs, see the definition in this section of "municipal waste combustion unit."

**Refractory unit or refractory wall furnace** means a municipal waste

combustion unit that has no energy recovery (such as through a waterwall) in the furnace of the municipal waste combustion unit.

**Refuse-derived fuel** means a type of municipal solid waste produced by processing municipal solid waste through shredding and size classification. That includes all classes of refuse-derived fuel including two fuels:

(1) Low-density fluff refuse-derived fuel through densified refuse-derived fuel.

(2) Pelletized refuse-derived fuel.

**Same location** means the same or contiguous properties under common ownership or control, including those separated only by a street, road, highway, or other public right-of-way. Common ownership or control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, subdivision, or any combination thereof. Entities may include a municipality, other governmental unit, or any quasi-governmental authority (for example, a public utility district or regional authority for waste disposal).

**Second calendar half** means the period that starts on July 1 and ends on December 31 in any year.

**Shift supervisor** means the person who is in direct charge and control of operating a municipal waste combustion unit and who is responsible for onsite supervision, technical direction, management, and overall performance of the municipal waste combustion unit during an assigned shift.

**Spreader stoker, mixed fuel-fired (coal/refuse-derived fuel) combustion unit** means a municipal waste combustion unit that combusts coal and refuse-derived fuel simultaneously, in which coal is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.

**Standard conditions** when referring to units of measure mean a temperature of 20 °C and a pressure of 101.3 kilopascals.

**Startup period** means the period when a municipal waste combustion unit begins the continuous combustion of municipal solid waste. It does not include any warmup period during which the municipal waste combustion unit combusts fossil fuel or other solid waste fuel but receives no municipal solid waste.

**Stoker (refuse-derived fuel) combustion unit** means a steam generating unit that combusts refuse-derived fuel in a semisuspension

combusting mode, using air-fed distributors.

*Total mass dioxins/furans or total mass* means the total mass of tetra-through octachlorinated dibenzo-p-dioxins and dibenzofurans as determined using EPA Reference Method 23 in appendix A of this part and the procedures specified in § 60.1300.

*Twenty-four hour daily average or 24-hour daily average* means either the arithmetic mean or geometric mean (as specified) of all hourly emission concentrations when the municipal waste combustion unit operates and combusts municipal solid waste

measured during the 24 hours between 12:00 midnight and the following midnight.

*Untreated lumber* means wood or wood products that have been cut or shaped and include wet, air-dried, and kiln-dried wood products. Untreated lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote.

*Waterwall furnace* means a municipal waste combustion unit that has energy (heat) recovery in the furnace (for

example, radiant heat transfer section) of the combustion unit.

*Yard waste* means grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs. They come from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands. Yard waste does not include two items:

- (1) Construction, renovation, and demolition wastes that are exempt from the definition of "municipal solid waste" in this section.
- (2) Clean wood that is exempt from the definition of "municipal solid waste" in this section.

Tables

TABLE 1 OF SUBPART AAAA—EMISSION LIMITS FOR NEW SMALL MUNICIPAL WASTE COMBUSTION UNITS

For the following pollutants	You must meet the following emission limits <sup>a</sup>	Using the following averaging times	And determine compliance by the following methods
1. Organics Dioxins/Furans (total mass basis).	13 nanograms per dry standard cubic meter.	3-run average (minimum run duration is 4 hours).	Stack test.
2. Metals:			
Cadmium .....	0.020 milligrams per dry standard cubic meter.	3-run average (run duration specified in test method).	Stack test.
Lead .....	0.20 milligrams per dry standard cubic meter.	3-run average (run duration specified in test method).	Stack test.
Mercury .....	0.080 milligrams per dry standard cubic meter or 85 percent reduction of potential mercury emissions.	3-run average (run duration specified in test method).	Stack test.
Opacity .....	10 percent .....	Thirty 6-minute averages .....	Stack test.
Particulate Matter	24 milligrams per dry standard cubic meter	3-run average (run duration specified in test method).	Stack test.
3. Acid Gases:			
Hydrogen Chloride	25 parts per million by dry volume or 95 percent reduction of potential hydrogen chloride emissions.	3-run average (minimum run duration is 1 hour).	Stack test
Nitrogen Oxides (Class I units) <sup>b</sup> .	150 (180 for 1st year of operation) parts per million by dry volume.	24-hour daily block arithmetic average concentration.	Continuous emission monitoring system.
Nitrogen Oxides (Class II units) <sup>c</sup> .	500 parts per million by dry volume .....	See footnote <sup>d</sup> .....	See footnote <sup>d</sup>
Sulfur Dioxide .....	30 parts per million by dry volume or 80 percent reduction of potential sulfur dioxide emissions.	24-hour daily block geometric average concentration or percent reduction.	Continuous monitoring emission system.
4. Other:			
Fugitive Ash .....	Visible emissions for no more than 5 percent of hourly observation period.	Three 1-hour observation periods .....	Visible emission test.

<sup>a</sup> All emission limits (except for opacity) are measured at 7 percent oxygen.

<sup>b</sup> Class I units mean small municipal waste combustion units subject to this subpart that are located at municipal waste combustion plants with an aggregate plant combustion capacity more than 250 tons per day of municipal solid waste. See § 60.1465 for definitions.

<sup>c</sup> Class II units mean small municipal waste combustion units subject to this subpart that are located at municipal waste combustion plants with an aggregate plant combustion capacity no more than 250 tons per day of municipal solid waste. See § 60.1465 for definitions.

<sup>d</sup> No monitoring, testing, recordkeeping, or reporting is required to demonstrate compliance with the nitrogen oxides limit for Class II units.

TABLE 2 OF SUBPART AAAA—CARBON MONOXIDE EMISSION LIMITS FOR NEW SMALL MUNICIPAL WASTE COMBUSTION UNITS

For the following municipal waste combustion units	You must meet the following carbon monoxide limits <sup>a</sup>	Using the following averaging times <sup>b</sup>
1. Fluidized-bed .....	100 parts per million by dry volume .....	4-hour.
2. Fluidized bed, mixed fuel, (wood/refuse-derived fuel) .....	200 parts per million by dry volume .....	24-hour. <sup>c</sup>
3. Mass burn rotary refractory .....	100 parts per million by dry volume .....	4-hour.