

## **Questionnaire for Boilers, Process Heaters, Incinerators and Other Combustion Units**

### **Survey Overview**

You will use this document to guide you through the question sequence. You will not enter your responses in this document. The responses will be entered in a series of seven answer key spreadsheets. These spreadsheets match the question sequence in this document and provide a specific area to record your response in each of the seven spreadsheets.

If you have not already downloaded a copy of the main answer key, it can be downloaded here: <http://survey.erg.com/ss/wsb.dll/s/7g8d/answerkey.xls>. The answer key contains macros in order to provide user-friendly drop down menus and check boxes for some answers. In order to run the macros correctly, please refer to the instructions in Appendix B1 of this document.

After you have reviewed your responses, you will attach a series of Excel spreadsheets containing your completed responses and e-mail them to [combustionsurvey@erg.com](mailto:combustionsurvey@erg.com) by the specified response deadline in the Section 114 letter. If your attachments are greater than 10 megabytes or too large for attaching to your internal e-mail system, you may upload the completed spreadsheets to a FTP site <ftp://combustionsurvey:combustion@ftp.erg.com> (see Appendix B2 for instructions on uploading files to the FTP site) or mail a CD-rom containing the completed spreadsheets to EPA at the address specified in the Section 114 letter.

**Please ensure that you clearly and consistently label your facility name and combustion unit ID on each spreadsheet you submit. You may select combustion unit IDs for each unit (or each group of similar small gas-fired boilers or process heaters), but please use a consistent unit ID across all spreadsheets that refer to the same unit (or group of similar units).**

This survey is divided into four parts:

#### **Part I – Facility Level Data**

Please answer these questions for the facility listed in the Section 114 letter you received in the mail. If you received more than one Section 114 letter for multiple facilities, you must create a separate survey response for each facility.

#### **Part II – Data From Each Relevant Boiler, Process Heater or Other Combustion Unit\***

II.A Design, Operating, Air Pollution Control Device, and Emission Data for Small Gas-fired\* Boilers or Process Heaters\*

Please fill out Section II.A for all operational small gas-fired\*. boilers or process heaters

II.B Unit Design, Operation, and Air Pollution Control Data for All Other Operational boilers\*, process heaters\*, or other combustion units\* (excluding small gas-fired\* boilers or process heaters and incinerators)

II.C. Fuels/Materials burned in Operational Boilers\*, Process Heaters\* or Other Combustion Units\* (excluding small gas-fired\* boilers or process heaters and incinerators)

Please fill out Sections II.B-II.C for each operational boiler, process heater, or other combustion unit that does not qualify under section II.A or PART IV. Sections II.B-II.C have been designed to request answers about a particular combustion unit before moving on to other combustion units at the facility.

To identify the appropriate fuel category to enter in your survey responses, please refer to the fuel category reference table in Appendix C of this document.

II.D. Emission Data

Section II.D will collect available emissions test data, CEM data, and Permitted and Regulatory emission limits from all operational combustion units that were not eligible to complete Section II.A or PART IV. All facilities that complete sections II.B and II.C must complete this section.

To identify the appropriate fuel category to enter in your survey responses, please refer to the fuel category reference

table in Appendix C of this document.

**Part III – Fuel/Materials Analysis Data**

Please fill out Part III for any fuel/material used in an operational boiler, process heater or other combustion unit at the facility other than natural gas, propane, liquefied petroleum gas, and refinery gas. All facilities using any fuel/material other than natural gas, propane, liquefied petroleum gas, and refinery gas in a boiler, process heater or other combustion unit must complete this section.

To identify the appropriate fuel category to enter in your survey responses, please refer to the fuel category reference table in Appendix C of this document.

**Part IV – Data from Each Incinerator Unit\***

Please fill out Part IV if you have any operational incinerators\* at your facility. Otherwise you may skip this part.

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\*Indicates that a definition of the term is provided in Appendix A of this document

**Part I: Facility Data**

1. Name of facility: \_\_\_\_\_
  
2. Complete street address of facility (physical location):
  - a. Address \_\_\_\_\_
  - b. City \_\_\_\_\_
  - c. State \_\_\_\_\_
  - d. Zip \_\_\_\_\_
  - e. County \_\_\_\_\_
  
3. Facility contact
  - a. Name (First Name, Last Name): \_\_\_\_\_
  - b. Title: \_\_\_\_\_
  - c. Telephone number: (\_\_\_\_) \_\_\_\_\_ ext. \_\_\_\_
  - d. Fax number: (\_\_\_\_) \_\_\_\_\_
  - e. E-mail: \_\_\_\_\_
  
4. If not the same as question #1, provide legal name of the owner of this facility: \_\_\_\_\_
5. Is the owner of this facility a private enterprise, not-for-profit, or a public sector entity? (select one)
  - private enterprise
  - not-for-profit
  - public sector
6. Is your facility a major source\* of HAP? (Y/N)
7. Size of entity
  - a. If private company owns facility:
    - a1. Please enter the approximate number of employees of the business enterprise that **owns** this facility, including where applicable, the parent company and all subsidiaries, branches, and unrelated establishments owned by the parent company:  
(select from list)
    - a2 Please enter the number of facility employees: (select from list)
  - b. If public sector owns facility:
    - b1. What is the population of the local government entity (city, county, town, school district, special district) that owns the facility? \_\_\_\_\_
  
8. Is the legal owner a small entity\* as defined by the Regulatory Flexibility Act? (select one)
  - Yes
  - No
  - Don't know
  
9. Select facility's primary NAICS. The primary NAICS code represents the line of business that generates the most income for the facility: (select from list of 3-digit NAICS codes)

\*Indicates that a definition of the term is provided in Appendix A of this document

**II.A Design, Operation, Air Pollution Control Device, and Emission Data for Small Gas-Fired\* Boilers or Process Heaters**

**Facility Name:** (name of facility will automatically be linked to the name you provided in Part I)

1. Please provide a brief inventory of each similar group of small gas fired **boilers**:
  - a. Enter the number of gas fired boilers less than or equal to 10 million Btu/hr (mmBtu/hr) heat input design capacity \_\_\_\_\_
  - b. Please classify any tune-up practices performed on this group of boilers along with the corresponding frequency (i.e., daily, monthly, quarterly, semiannually, annually, every two years, every five years or longer). Tune-up practices include activities that involve checking the unit's combustion processes and adjusting as needed:
    - using the scheduled tune-up and procedures provided by the boiler manufacturer
    - Inspection and cleaning, as necessary, of fireside and water-side surfaces.
    - Inspecting, cleaning and/or reconditioning of fuel systems.
    - Checking all electrical and combustion control systems.
    - Testing of exhaust gases (CO, O<sub>2</sub>, other) as necessary to calculate combustion efficiency and make necessary adjustments to the combustion system. If this option is checked, indicate what level the CO is adjusted to: \_\_\_\_\_
    - Inspection and repair of all valves (relief, safety, hydraulic, pneumatic, etc.).
    - Inspection and repair of refractories.
    - Cleaning and inspecting fan housing, blades, and inlet screens.
    - Cleaning/reconditioning and inspecting the feedwater system.
  - c. Please classify any good combustion practices performed on this group of boilers, along with the corresponding frequency (i.e., daily, monthly, quarterly, semiannually, annually, every two years, every five years or longer) of each practice:
    - Using up to date operating procedures, training, recordkeeping
    - Maintenance knowledge (including training on applicable equipment and procedures)
    - Maintenance practices including maintenance procedures and recordkeeping
    - Fuel/air ratio periodic checks
    - Automatic O<sub>2</sub>/CO trim control systems
    - Monitoring furnace residence time and temperature
    - Fuel quality and proper fuel handling (including monitoring quality, periodic sampling and analysis, fuel supplier certification, if used)
    - Proper fuel distribution in the combustion zone
    - Combustion air distribution based on observations with periodic or continuous adjustments
    - Low NO<sub>x</sub> burners
  - d. If any of these boilers are subject to a CO limit, please provide the numerical limit with units.  
  
CO numerical limit with units \_\_\_\_\_ (e.g., 400 ppm at 3% O<sub>2</sub> dry, lb/mmBtu heat input, other-please specify)  
Fuel associated with numerical limit (select from list) \_\_\_\_\_  
Corresponding Averaging Time (i.e., 30-day rolling average, hourly, other) for CO limit: \_\_\_\_\_
2. Please provide a brief inventory of each similar group of small gas fired **process heaters**:
  - a. Enter the number of small gas fired process heaters less than or equal to 10 million Btu/hr (mmBtu/hr) heat input design capacity \_\_\_\_\_
  - b. Please classify any tune-up practices performed on this group of process heaters along with the corresponding frequency (i.e., daily, monthly, quarterly, semiannually, annually, every two years, every five years or longer). Tune-up practices include activities that involve checking the unit's combustion processes and adjusting as needed:
    - using the scheduled tune-up and procedures provided by the boiler manufacturer

- Inspection and cleaning, as necessary, of fireside and process material-side surfaces.
  - Inspecting, cleaning and/or reconditioning of fuel systems.
  - Checking all electrical and combustion control systems.
  - Testing of exhaust gases (CO, O<sub>2</sub>, other) as necessary to calculate combustion efficiency and make necessary adjustments to the combustion system. If this option is checked, indicate what level the CO is adjusted to: \_\_\_\_\_
  - Inspection and repair of all valves (relief, safety, hydraulic, pneumatic, etc.).
  - Inspection and repair of refractories.
  - Cleaning and inspecting fan housing, blades, and inlet screens.
- c. Please classify any good combustion practices performed on this group of process heaters, along with the corresponding frequency (i.e., daily, monthly, quarterly, semiannually, annually, every two years, every five years or longer) of each practice:
- Using up to date operating procedures, training, recordkeeping
  - Maintenance knowledge (including training on applicable equipment and procedures)
  - Maintenance practices including maintenance procedures and recordkeeping
  - Fuel/air ratio periodic checks
  - Automatic O<sub>2</sub>/CO trim control systems
  - Monitoring furnace residence time and temperature
  - Fuel quality and proper fuel handling (including monitoring quality, periodic sampling and analysis, fuel supplier certification, if used)
  - Proper fuel distribution in the combustion zone
  - Combustion air distribution based on observations with periodic or continuous adjustments
  - Low NO<sub>x</sub> burners
- d. If any of these process heaters are subject to a CO limit, please provide the numerical limit with units.
- CO numerical limit with units \_\_\_\_\_ (e.g., 400 ppm at 3% O<sub>2</sub> dry, lb/mmBtu heat input, other-please specify)
- Fuel associated with numerical limit (select from list \_\_\_\_\_)
- Corresponding Averaging Time (i.e., 30-day rolling average, hourly, other) for CO limit: \_\_\_\_\_

3. For each small gas-fired\* boiler or process heater, provide the results of the most recent stack test data for each of the pollutants listed in the emission test spreadsheet by completing the spreadsheet linked below. EPA is not requesting actual test reports at this time; however we reserve the right to request actual copies in the future. EPA will also accept other supporting emission test data to document any earlier emission tests on the unit with similar controls and fuels. You may also submit a spreadsheet of any other information available relative to trials or tests of emission control methods or R&D efforts. The Agency is requesting these data only as they may already be available; no additional sampling or analyses are required to provide these data. The answer key for providing emission test data from small gas-fired\* boilers or process heaters is available at this Web-Site:

[http://survey.erg.com/ss/data/BSF/Small\\_Gas\\_Emissions\\_Data\\_030308.xls](http://survey.erg.com/ss/data/BSF/Small_Gas_Emissions_Data_030308.xls)

4. For each small gas-fired\* boiler or process heater provide the daily averages of continuous emissions monitor (CEM) data for CO and appropriate adjustments for O<sub>2</sub> or other diluent gas. EPA is also requesting corresponding CEM data for NO<sub>x</sub> in order to evaluate the relationship of low NO<sub>x</sub> units and CO emissions., If available these data are requested for the most recent 30 days of operation, and the highest single daily average for CO emissions within the most recent calendar year of CEM data. You should exclude data from the averages if they are from periods of start-up, shutdown, or malfunctions. The answer key for providing CEM data is available at this Web-site:

[http://survey.erg.com/ss/data/BSF/Small%20Gas\\_CEM\\_data\\_022608.xls](http://survey.erg.com/ss/data/BSF/Small%20Gas_CEM_data_022608.xls)

5. Do you have any boilers, process heaters, incinerators, or other combustion units at your facility (excluding small gas-fired boilers or process heaters)? Y/N

If no, you are done with the survey. Please review your answers and submit your response to EPA by the deadline listed in the Section 114 letter.

**Part II.B Unit Design, Operation, and Air Pollution Control Data for All Other Operational boilers\*, process heaters\*, or other combustion units\* (excluding small gas-fired\* boilers or process heaters and incinerators)**

**Facility Name:** (name of facility will automatically be linked to the name you provided in Part I)

**1. General Information**

- a. Combustion device ID: \_\_\_\_\_
- b. Year built: \_\_\_\_\_
- c. Design capacity (heat input) value: \_\_\_\_\_
- d. Fuel type associated with design capacity (heat input) value (select from list): \_\_\_\_\_
- e. Design capacity units (select from list): \_\_\_\_\_
- f. Furnace heat release rate (Btu/ ft<sup>3</sup>): \_\_\_\_\_
- g. Is unit subject to NSPS? Yes/No
- h. If you indicated yes to question g, indicate the year of NSPS (select from list):
- i. Primary combustion device use (check all that apply):
  - steam generation
  - space heat
  - process heat
  - electricity generation
  - waste incineration
  - cogeneration
  - Other (please explain): \_\_\_\_\_
- j. Additional combustion device uses (check all that apply):
  - steam generation
  - space heat
  - process heat
  - electricity generation
  - waste incineration
  - cogeneration
  - Other (please explain): \_\_\_\_\_
- k. For boilers only, check **all that apply** (several may apply to your unit):
  - k.1 Erection Design
    - Package (shop erected)
    - Field Erected
    - Modular (part shop erected and part field erected)
  - k.2 Unit Design
    - Water tube
    - Fire tube
    - Hybrid (if hybrid is selected, check the appropriate subtype)
      - main combustion zone design is watertube
      - main combustion zone design is firetube
  - k.3 Suspension Firing
    - tangential
    - wall-fired
    - combination of suspension firing and grate firing (i.e., oil and bark)
    - other (please explain)

\*Indicates that a definition of the term is provided in Appendix A of this document

l. For solid-fuel\* boilers only, check **all that apply** (several may apply to your unit)

- |  |   |
|--|---|
| <input type="checkbox"/> Stoker                        | <input type="checkbox"/> Pulverized Coal                          |
| <input type="checkbox"/> spreader                      | <input type="checkbox"/> Cyclone                                  |
| <input type="checkbox"/> mass feed                     |   |
| <input type="checkbox"/> manual feed                   | <input type="checkbox"/> Other                                    |
| <input type="checkbox"/> other (please specify): _____ | <input type="checkbox"/> fuel cells                               |
|  | <input type="checkbox"/> suspension burners                       |
| <input type="checkbox"/> Fluidized Bed                 | <input type="checkbox"/> sloped-grate                             |
| <input type="checkbox"/> circulating                   | <input type="checkbox"/> dutch oven                               |
| <input type="checkbox"/> bubbling                      | <input type="checkbox"/> gasifier                                 |
|  | <input type="checkbox"/> other not listed (please specify): _____ |

m. For process heaters only, check **all that apply**:

Erection Design

:

- Package (shop erected)
- Field Erected

Unit Design

Firing Mechanism

- Fire tube
- Water tube
- Thermal oil heaters
- Other (please explain): \_\_\_\_\_

- fuel cells
- suspension burners
- sloped-grate
- dutch oven
- gasifier
- other not listed (please specify): \_\_\_\_\_

n. For other combustion units, check all that apply

Draft Configuration

- natural draft
- forced draft

Unit Type

- Dryer
- Heater
- Kiln
- Engine
- Other not listed (please specify): \_\_\_\_\_

**2. Operating Parameters**

a. Hours of Operation (hr/yr) (excluding periods of start-up, shutdown, and malfunction)

Typical: \_\_\_\_\_

b. Duty Cycle: (select one)

- base-loaded
- load following
- stand-by

c. Is the operation seasonal\*? Y/N

**3. Air Pollution Control**

**Facility Name:** (name of facility will automatically be linked to the name you provided in Part I)

You will first be asked to list **all** add-on control devices, in the order contacted by the exhaust, and then you will be asked to identify good combustion practices used, followed by combustion controls. Specify the control device type using the descriptions provided in the drop-down menus. Your responses should include information on devices considered integral to your combustion unit (such as mechanical collectors) as well as add-on control devices.

a1. Control device currently installed (select from list)

a2. Year control device installed:

a3. Has an upgrade/modification been made to the control device since it was installed? Y/N

a4. Was an upgrade/modification/installation / replacement of the control device in a1 made to comply with the now vacated 40 CFR 63 Subpart DDDDD? Y/N (skip to a9 if no)

a5. If yes to a4, was the prior control device removed or added to the current control device?

- removed
- added to
- modified

a6. If yes to a4, what was the control device prior to the *upgrade/modification/installation/replacement* made in preparation of compliance with 40 CFR 63 Subpart DDDDD? (select from list)

a7. If yes to question a4 above, please provide the month and year that the upgrade/modification/replacement to the control device was made (mm/yyyy):

\_\_\_\_\_

a8. If yes to a4, provide the date when the control device selected in a6 was installed or last upgraded/modified (whichever date is most recent)? (year)\_\_\_\_\_

a9. Is the control device used as a common control device for more than one combustion unit?

- Not common
- Common, list names of units affected by this control in comments section below: \_\_\_\_\_

a10. What, if any, Continuous Parameter Monitoring Systems (CPMS)\* are installed for this control device? (check all that apply)

- none installed
- pressure drop
- flow rate entering or exiting the control device
- Voltage and secondary current (or total power input) to the control device
- Other (please specify):



Below is an example table from the answer key for how one might answer questions a1-a10 on the control devices installed on a particular combustion unit. In this case, mechanical collector was installed in 1987; a wet scrubber was removed and replaced with an ESP to comply with the vacated DDDDD standard.

<i>Example</i>				<i>Answer Only if a4 was 'Yes'</i>					
<i>a1.</i>	<i>a2.</i>	<i>a3.</i>	<i>a4.</i>	<i>a5.</i>	<i>a6.</i>	<i>a7.</i>	<i>a8.</i>	<i>a9.</i>	<i>a10.</i>
<i>Mechanical Collector</i>	<i>1987</i>	<i>N</i>	<i>N</i>					<i>Not Common</i>	
<i>ESP</i>	<i>2008</i>	<i>N</i>	<i>Y</i>	<i>Removed</i>	<i>Wet Scrubber</i>	<i>07/2008</i>	<i>1987</i>	<i>Not Common</i>	<i>Flow rate Voltage</i>

b. Is oxygen or carbon monoxide used for boiler/process heater combustion air trim control? (select one)

- oxygen
- carbon monoxide
- neither

c. Please classify any tune-up practices performed on this combustion unit along with the corresponding frequency (i.e., daily, monthly, quarterly, semiannually, annually, every two years, every five years or longer). Tune-up practices include activities that involve checking the unit's combustion processes and adjusting as needed:

- using the scheduled tune-up and procedures provided by the boiler manufacturer
- Inspection and cleaning, as necessary, of fire-side and water-side surfaces.
- Inspecting, cleaning and/or reconditioning of fuel systems.
- Checking all electrical and combustion control systems.
- Testing of exhaust gases (CO, O<sub>2</sub>, other) as necessary to calculate combustion efficiency and make necessary adjustments to the combustion system. Indicate what level the CO is adjusted to: \_\_\_\_\_
- Inspection and repair of all valves (relief, safety, hydraulic, pneumatic, etc.).
- Inspection and repair of refractories.
- Cleaning and inspecting fan housing, blades, and inlet screens.
- Cleaning/reconditioning and inspecting the feedwater system.

d. Please classify any good combustion practices performed on this combustion unit, along with the corresponding frequency (i.e., daily, monthly, quarterly, semiannually, annually, every two years, every five years or longer) of each practice:

- Using up to date operating procedures, training, recordkeeping
- Maintenance knowledge (including training on applicable equipment and procedures)
- Maintenance practices including maintenance procedures and recordkeeping
- Fuel/air ratio periodic checks
- Automatic O<sub>2</sub>/CO trim control systems
- Monitoring furnace residence time and temperature
- Fuel quality and proper fuel handling (including monitoring quality, periodic sampling and analysis, fuel supplier certification, if used)
- Proper liquid atomization
- Proper fuel distribution in the combustion zone
- Combustion air distribution based on observations with periodic or continuous adjustments
- fly ash reinjection
- combustion of drier fuel
- better fuel distribution in firebox
- co-firing
- low NO<sub>x</sub> burners

#### 4. Stack

a. Does combustion unit emit through its own single stack\*? (Y/N)

b. Does combustion unit emit through a common stack\*? (Y/N) (If yes, answer question b1 below)

b1. List quantity and category of all other combustion units venting to this common stack: (example: 2 coal fired boilers venting to common stack) \_\_\_\_\_

c. Does combustion unit emit through multiple stacks\*? (Y/N)

**Part II.C Fuels/Materials burned in the Combustion Unit**

You will be asked to enter each fuel/material combusted in the combustion unit in the following order:

- Start-up\* fuel/material
- Individual and co-fired fuels/material combusted during normal operation
- Additional Fuels/Materials that are not routinely combusted (including fuels that are fired on an intermittent basis)

Facility Name: (pass through facility name on each page) Combustor ID: (pass through combustor ID on each page)

1. If start-up\* fuel is different than normal fuel, please answer question 1 parts a, b, and c, otherwise proceed to question 2:
  - a. Select fuel/material from drop-down menu (if other is selected on drop-down menu provide a space to explain other)
  - b. Number of start-ups per year \_\_\_\_\_
  - c. Typical length of time for start-up (hours) \_\_\_\_\_
2. Fuels/Materials Combusted During Normal Operation:

Please complete the table below in the answer key for each fuel or combination of fuels fired in the combustion unit. You will provide the name of the material, the minimum, maximum and annual or seasonal average heat input of the fuel used in the combustion unit.

In the *example* below, this boiler fires bituminous coal, and plant-based agricultural residue. The agricultural residue is fired seasonally.

Use the fuel categories from the dropdown menus to respond. Select the fuel category that is most specific to your fuel/material based on the table in Appendix C of this document. For example, "landfill gas (LFG)" is more useful than "waste-gas"; "bituminous coal" or "anthracite coal" is more useful than "coal". If you specific fuel type is not listed in Appendix C, then you should select "other solid", "other liquid", or "other gas" and provide a brief name for the specific fuel type.

Fuel/Material	Is fuel/material fed directly to combustion unit ("B" for boiler, "P" for process heater, "O" for other combustion units"	Is this fuel/material used seasonally (S*) or annually (A)	Hours used per year	Heat Input (mmBtu/hr)			Permitted Limit for Fuel Usage (not permitted emission limit)	
				Min 2e	Max 2f	Mean 2g	Value 2h.	Units 2i.
Question 2a	Question 2b	Question 2c	Question 2d					
<i>Example</i>								
<i>Bituminous Coal</i>	<i>B</i>	<i>A</i>	<i>8200</i>	<i>100</i>	<i>175</i>	<i>110</i>	<i>100</i>	<i>tons/day</i>
<i>Plant-Based Agricultural Residue</i>	<i>B</i>	<i>S</i>	<i>1000</i>	<i>25</i>	<i>50</i>	<i>32</i>	<i>Not Applicable</i>	

3. Fuels/Materials NOT Routinely Combusted (including fuels that are fired on an intermittent basis)

Please complete the table below in the answer key. This table is similar to question 2 above, however it applies to fuels/materials NOT routinely fired in the combustion unit. An example response is shown below.

Fuel/Material	Is fuel/material fed directly to	Describe Conditions	Hours used per	Heat Input (mmBtu/hr)	Permitted Limit for Fuel Usage (not
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	combustion unit (“B” for boiler, “P” for process heater, “O” for other combustion units”	for fuel use	year				permitted emission limit)	
Question 3a	Question 3b	Question 3c	Question 3d	Min 3e	Max 3f	Mean 3g	Value 3h	Units 3i
<i>Example</i>								
<i>Wood: Unadulterated Timber</i>	<i>B</i>	<i>Agricultural residue is unavailable during part of seasonal operation</i>	<i>200</i>	<i>25</i>	<i>50</i>	<i>38</i>	<i>Not Applicable</i>	

4a. Do you have an emission test report available for this unit? (EPA is not requesting actual test reports at this time; however we reserve the right to request actual copies in the future.) Y/N

4b. If yes to question 4a above, please list *where the available test report occurred* not the equipment arrangement:

- dedicated control device, single dedicated stack
- common control device, single stack
- dedicated control device, multiple stacks
- common control device, multiple stacks
- other (please explain) \_\_\_\_\_

5a. Please select the exhaust gases for which you have continuous emission monitors (CEM)\* installed on this unit:

- SO<sub>2</sub>
- NO<sub>x</sub>
- CO
- O<sub>2</sub> (or other diluent gas)
- VOC or hydrocarbon monitor
- PM

5b. For each of the CEM monitors you have installed, was this monitor installed for regulatory purposes?

5c. For each of the CEM monitors you have installed, do you have the ability to record CEM data?

5d. For each of the CEM monitors you have installed, do you have the ability to save CEM data?

6. Do any boilers, process heaters or other combustion units at your facility fire any non-fossil or other\* fuels/materials? (Y/N) If no skip questions 7 and 8.

7. If the unit were to stop burning non-fossil or other\* material in your combustion unit(s), what would happen to the material? (Please answer questions 7 and 8 separately for each non-fossil fuel burned) Your answers provided in questions 7-9 below are non-binding.

(a) Select non-fossil fuel from list

(b) Check corresponding alternative method(s) for handling this non-fossil fuel or other material.

- Send to a landfill off-site
- Dispose on-site
- Dispose through local trash collection
- Vent to atmosphere
- Send to waste water treatment plant
- Contract for special disposal service
- Sell to a processor for making product
- Sell to off-site facility for use as a fuel
- Stop purchasing material from 3<sup>rd</sup> Party
- Don't know
- No other alternative currently available

Other: \_\_\_\_\_

8. If the unit were to stop burning this non-fossil or other\* fuel/material in your combustion unit(s), how would you compensate for the lost heating value?

(a) *Select non-fossil fuel from list*

(b) *Check corresponding compensation for lost heating value.*

burn a fossil fuel such as coal, oil, or gas in the same units

buy new equipment capable of burning another fuel

not applicable, material has no heating value

purchase steam from another nearby facility

generate additional steam from other boiler(s) located at the same facility

Unknown

(c) Would your combustion units likely stop combusting these non-fossil or other materials if continuing to burn these materials would result in the unit being subject to 129 instead of 112?

Yes

No

Unknown

If you fire more than one type of non-fossil or other\* fuel/material at your facility, repeat questions 7 and 8 for each non-fossil or other\* fuel/material.

9. What additional annualized costs would you incur for this unit to comply with Section 129 CISWI rule (40 CFR Part 60 Subpart CCCC or 40 CFR Part 63 Subpart DDDD) as compared to the vacated Boiler MACT? (Check appropriate cost range, and provide note on cost components evaluated).

a.  \$0 to \$50,000

\$50,001 to \$100,000

\$100,001 to \$500,000

\$500,001 to \$1,000,000

>\$1,000,000

Unknown

b. Indicate the cost components evaluated in your cost estimate above:

10. Do you have another boiler, process heater, or other combustion unit you need to add to this survey? Y/N (If Yes, re-start at part II.B, otherwise proceed to part II.D)

### **Part II.D Emission Data from Combustion Device**

1. Provide the results of the most recent stack test data for each of the pollutants listed in the emission test spreadsheet by completing and e-mailing the Excel spreadsheet linked below to [combustionsurvey@erg.com](mailto:combustionsurvey@erg.com). EPA is not requesting actual test reports at this time; however we reserve the right to request actual copies in the future. EPA will also accept other supporting emission test data to document any earlier emission tests on the unit with similar controls and fuels. You may also submit a spreadsheet of any other information available relative to trials or tests of emission control methods or R&D efforts. The Agency is requesting these data only as they may already be available; no additional sampling or analyses are required to provide these data. The answer key for providing emission test data is available at this Web-site: [http://survey.erg.com/ss/data/BSF/Emissions\\_Data\\_030308.xls](http://survey.erg.com/ss/data/BSF/Emissions_Data_030308.xls)

2. Provide the daily averages of continuous emissions monitor (CEM) data for NO<sub>x</sub>, SO<sub>2</sub>, CO, O<sub>2</sub> (or other diluent gas), PM and 6-minute averages for opacity, if available for the most recent 30 days of operation, and the highest single daily average (highest single 6-minute average for opacity) data point within the most recent calendar year of CEM data. You should exclude data from the averages if they are from periods of start-up, shutdown, or malfunctions. You can submit this data by completing the CEM data spreadsheet and e-mailing it to [combustionsurvey@erg.com](mailto:combustionsurvey@erg.com). The answer key for providing CEM data is available at this Web-site: [http://survey.erg.com/ss/data/BSF/CEM\\_data\\_022608.xls](http://survey.erg.com/ss/data/BSF/CEM_data_022608.xls)

3. Provide a summary of permitted or regulatory emission limits, if applicable to your unit for each pollutant listed in the Permitted and Regulatory Emission Limit Worksheet. If the unit does not have a limit for a given unit, you may leave this entry blank. You can submit this data by completing the permitted and regulatory spreadsheet and e-mailing it to [combustionsurvey@erg.com](mailto:combustionsurvey@erg.com). The answer key for providing permitted and regulatory limits is available at this Web-site: [http://survey.erg.com/ss/data/BSF/Permitted\\_and\\_Regulatory\\_Limit.xls](http://survey.erg.com/ss/data/BSF/Permitted_and_Regulatory_Limit.xls)

### **Part III: Fuel/Material Data**

Facility Name: (pass through facility name on each page)

1. Fuel/Material Description (select from list and be consistent with selections made in Section II.C. Question 2)

2. Where does fuel/material originate?

- On-site\*
- Off-site
- Both (i.e., some bark from on-site combined with some bark generated off-site)

3. Is a fuel/material analysis provided by a fuel supplier or conducted on-site available? (Y/N)

If you have a fuel/material analysis available, provide the results of the most recent fuel/materials analysis for all fuels and materials (excluding natural gas, propane, liquefied petroleum gas, and refinery gas) combusted on-site in combustion units. Use the fuel categories from the list below, when available. Select the 'other' fuel description only if the fuel burned in the unit(s) is not on the list. If 'other' is selected please provide a brief name for this fuel. Select the most descriptive name as possible. For example, "landfill gas (LFG)" is more useful than "waste-gas"; "bituminous coal" or "anthracite coal" is more useful than "coal".

Please e-mail an electronic copy of the fuel analysis to [combustionsurvey@erg.com](mailto:combustionsurvey@erg.com). The fuel analysis should be formatted according to the linked Excel spreadsheet below. Please identify the fuel name, facility name, and combustor ID consistently with how you answered Parts I and II. You may also provide a summary of any earlier fuel analyses, as long as these are representative of fuels/materials still used in the boiler/process heater. The answer key for providing fuel analysis data is available at this Web-site: [http://survey.erg.com/ss/data/BSF/Fuel\\_Analysis.xls](http://survey.erg.com/ss/data/BSF/Fuel_Analysis.xls).

4. If any of your boilers, process heaters, or other combustion units other than small gas-fired boilers or process heaters covered under survey Part II.A or incinerators covered under survey part IV burn any other fuels you may copy and paste additional rows in the answer key to answer questions 1-3 about these fuels.

#### **Part IV – Data from each Incinerator Unit\***

Complete this section for each incinerator\* at your facility that is not regulated by Section 3005 of RCRA. If you do not have any incinerators at your facility, you are done with the survey. Please review your answers and submit your response to EPA by the deadline listed in the Section 114 letter.

1. Unit-Data

- a. Combustion device ID: \_\_\_\_\_
- b. Unit Design Information (check all that apply):  single batch fed
  - starved air
  - fixed hearth
  - rotary hearth
  - intermittent batch fed
  - excess air
  - rotary kiln
  - moving grate

- continuously fed
- single chamber
- multi-chamber/afterburner
- spreader stoker
- other:

c. Manufacturer: \_\_\_\_\_

d. Model Number: \_\_\_\_\_

e. Installation Date: \_\_\_\_\_

f. Dates/descriptions of major renovations: \_\_\_\_\_

g1. Design Capacity : \_\_\_\_\_

g2. Design Capacity Units: (tons waste per day, Other (please specify)

h1. Typical Hours Operated, Per Year: \_\_\_\_\_

h2. Per day: \_\_\_\_\_

## 2. Air Pollution Control Device and Equipment Modifications Information

Repeat this section for each control device or equipment modification made to the incinerator.

(a) Is your incinerator equipped with an air pollution control device (e.g. wet scrubber, fabric filter, electrostatic precipitator)? If yes, please specify the type and provide any details as specified below for each control device:

a1. Type: \_\_\_\_\_

a2. Year Installed: \_\_\_\_\_

a3. Manufacturer: \_\_\_\_\_

a4. Model No.: \_\_\_\_\_

a5. Percent of incinerator operating time that control device is operated: \_\_\_\_\_ %

a6. Control device air flow capacity (typically in acfm): \_\_\_\_\_

a7. Date control device(s) were last modified, repaired, or rebuilt: \_\_\_\_\_

a8. Annual hours of control device downtime for repairs and maintenance: \_\_\_\_\_

a9. Is control device shared with other equipment? (Y/N) If yes, please identify the other equipment that is routed to the same control device: \_\_\_\_\_

b1. What were the installed capital costs of the control device? (\$, year) \_\_\_\_\_

b2. What are the annual operating costs?(\$, year) \_\_\_\_\_

(c) If your unit is equipped with a control device, please list the applicable operating parameters: c1. Wet scrubber pressure drop (in. H<sub>2</sub>O): \_\_\_\_\_

c2. Fabric filter air-to-cloth ratio: \_\_\_\_\_

c3. Other: \_\_\_\_\_

c. If you have made modifications to the incinerator(s) to reduce emissions:

c1. When were the modifications made? \_\_\_\_\_

c2. Briefly describe the type of modifications? \_\_\_\_\_

c3. Do you have information on the costs of the modifications? Y/N \_\_\_\_\_  
(If you answered "Yes", please attach copy of cost information)

## 3. Waste Segregation or Recycling Practices

a. Does the facility currently employ waste segregation or recycling practices that reduce the volume of waste being incinerated? Y/N (if no, skip to question 4)

b. When were waste segregation practices begun? (month, year) \_\_\_\_\_

c. What types of materials are segregated from the waste stream? (please check all that apply)

paper/cardboard

other chlorine containing materials (please list)

\_\_\_\_\_

other (please list)

\_\_\_\_\_

d. What is done with the materials that are segregated from the waste stream?

\_\_\_\_\_

e. Estimate the current cost of your waste segregation/recycling program (please indicate whether cost estimate is on an annual basis, monthly basis, or other).

\_\_\_\_\_

f. Do you have any emissions test data that would show the effects of segregating materials from the waste stream (e.g., test data before and after waste segregation practices began)? Y/N

If yes, please attach complete copies of the test reports and any analyses of the impact of waste segregation on emissions.

#### 4. Emission Test Data

a. Has emissions testing ever been conducted on this unit(s): Y/N \_\_\_\_\_

b. If so, please provide complete copies of the test reports that document all emission testing that has been conducted in the last 10 years. You may provide electronic versions of the test reports in lieu of attaching paper copies.

5. Do you have another incinerator unit you need to add to this survey? Y/N (If Yes, repeat part IV for another unit. Otherwise you are done with the survey. Please review your answers and submit your response to EPA by the deadline listed in the Section 114 letter).

## **Appendix A: Definitions for Questionnaire**

### **Definitions:**

1. For purposes of this survey, combustion units include the following devices:

*Boiler* means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Waste heat boilers, electric utility steam generating units (see definition), kraft recovery furnaces (see definition), and units required to have permit under Section 3005 of RCRA (e.g., hazardous waste waste incinerators) do not have to respond to this survey.

*Process heater* means an enclosed device using controlled flame, that is not a boiler, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not directly come into contact with process materials. Process heaters do not include units used for comfort heat or space heat, food preparation for on-site consumption, or autoclaves.

*Other combustion unit* means any other unit firing a non-fossil liquid or solid fuel/material, other than unadulterated wood (see definition), whether covered under another MACT standard that is not a boiler, process heater, or incinerator. Units required to have a permit under Section 3005 of RCRA (e.g., hazardous waste incinerators) do not have to respond to this survey.

*Incinerator* refers to a combustion unit with the primary purpose of destroying matter and/or reducing the volume of the materials and is neither a boiler or process heater. Units required to have a permit under Section 3005 (e.g., hazardous waste incinerators) do not have to respond to this survey.

2. *Electric utility steam generating unit* means a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit. **Non-fossil fuel-fired electric utility steam generating units of any size must respond to this survey.**

3. *Kraft recovery furnace* means a furnace (i.e., boiler) used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which is spent cooking liquor that has been separated from the pulp produced by the kraft pulping process. **Recovery furnaces that combust other non-fossil liquid or solid materials with the black liquor must respond to this survey.**

4. *Small gas-fired boilers or process heaters* mean boilers or process heaters that have a heat input capacity less than 10 mmBtu/hr that: (1) burn natural gas, propane, liquefied petroleum gas (LPG), or refinery gas not combined with any other fuels; (2) if a unit burns distillate liquid fuel only during periods of gas curtailment, gas supply emergencies, or for periodic testing of liquid fuel and the periodic testing of liquid fuel does not to exceed a combined total of 48 hours during any calendar year, this unit is still a gas-fired boiler for the purpose of this survey.

5. *On-site* means the fuel/material generated from a process located at the facility. *Off-site* means either a raw material or other material generated from a process not located at the same facility as the combustion unit.

6. *Major sources* are those plant sites with the potential to emit 10 tons per year (tpy) of any one hazardous air pollutant (HAP) or 25 tpy of a combination of HAPs. Section 112(b) of the Clean Air Act Amendments contains the list of HAPs.

7. *Small Entity* is defined as follows:

(1) for Private Businesses it is determined for each NAICS of the owning entity based on number of employees and/or company revenue. Please see [http://www.sba.gov/idc/groups/public/documents/sba\\_homepage/serv\\_sstd\\_tablepdf.pdf](http://www.sba.gov/idc/groups/public/documents/sba_homepage/serv_sstd_tablepdf.pdf) to evaluate the small entity status of your facility;

(2) for local government entities, such as a city, county, town, school district or special district with a population of less than 50,000; and

(3) for not-for-profits an organization that is independently owned and operated and is not dominant in its field.



8. *Solid fuel* fired units are any boilers, process heaters or other combustion units that fire solid fuel alone or in conjunction with other fuel types

9. Stack configurations are defined as follows:

A dedicated *single stack* configuration is where all flue gases from a combustion device are emitted through one stack.

A *common stack* configuration combines flue gases from more than one combustion device.

A *multiple stack* configuration represents a situation where a boiler vents to a dedicated control device, and the exhaust gases from the control device are emitted from more than one stack.

10. *Seasonal operation* indicates an operating pattern that varies heat input demand depending on time of year, but follows the same pattern annually.

11. *Seasonal average* is the mean value of number (emission rate or operating parameter) over an entire operating season. For example, if bagasse is fired 120 days per year, 24 hours per day, the seasonal average heat input rate would be the average of all the heat input rates during the 120 day period.

12. *CEM (Continuous emission monitor)* provides continuous measurement of pollutants emitted into the atmosphere in exhaust gases from combustion or industrial processes.

13. *CPMS (Continuous Parameter Monitoring System)* provides continuous measurement of operating parameters for control devices such as gas flow rate entering or exiting the control device, daily average voltage and secondary current (or total power input) to the control device, daily average pressure drop across the scrubber, or daily average liquid-to-gas ratio.

14. Start-up means the setting in operation of an affected combustion unit for any purpose. Start-up fuel does not apply to stabilization fuels. You should include stabilization fuels as part of your response to questions II.C.2 and II.C.3.

15. *Unadulterated wood* means wood that is not painted, varnished or treated with chemicals such as glues, resins, preservatives or adhesives. Any painted or varnished wood, wood containing glues or resins, or chemically treated wood (e.g., pressure treated wood, treated railroad ties) or wood containing glues or adhesives (e.g., plywood, particle board) is considered adulterated wood.

16. *Non-fossil or other fuel/material* is defined as any material that is not coal, oil, or natural gas, or derived from coal (e.g., coal refuse (culm, gob, coal tar), oil (e.g., petroleum coke), or natural gas. For illustrative purposes only, EPA has provided a detailed (though not extensive) list of non-fossil fuels. This definition or list does not represent or imply any regulatory definition of non-fossil fuel.

Non-Fossil Fuel/Material		
Acetone: New and Used Solvent	Sewage gas	Shredded cloth
Agricultural Residue: Almond Shells	Biogas (Excluding Sewage Sludge)	Solid paraffin
Agricultural Residue: Almond Tree Prunings	Envirofuel pellets	Solvents
Agricultural Residue: Barley dust and chaff	Filters	Spent Coffee Grounds
Agricultural Residue: Barley Needles	Fuel cubes (paper diaper clippings/refuse)	Spent Oxide
Agricultural Residue: Corn Fiber	Glycerol Distillation Byproduct	Stripper condensate
Agricultural Residue: Corn Gluten Feed	Heavy Recycle	Sulfur Free Organic Byproduct
Agricultural Residue: Corn Mill Dryer Off-gas	High Caustic Fuel	Sunwax- Diatomaceous earth with sunflower oil wax
Agricultural Residue: Corn Starch Residue	Hog fuel: Hardwood	Tall oil, tall oil derivatives
Agricultural Residue: Corn Stover	Hog fuel: Softwood	Tar
Agricultural Residue: Cotton And Corn	Hog fuel: Urban	Tire Chips
Agricultural Residue: Cotton Gin Residue	Lumber Refuse (hogged pallet boards/other non-treated scrap)	Tire Derived Fuel (TDF)
Agricultural Residue: Cotton Stalks	Mixed wood residues	Tires (whole)
Agricultural Residue: Cottonseed Hulls	Log Yard Cleanup	Toluene
Agricultural Residue: Fruit Pits	Hydrogen	Turkey brood woodwaste

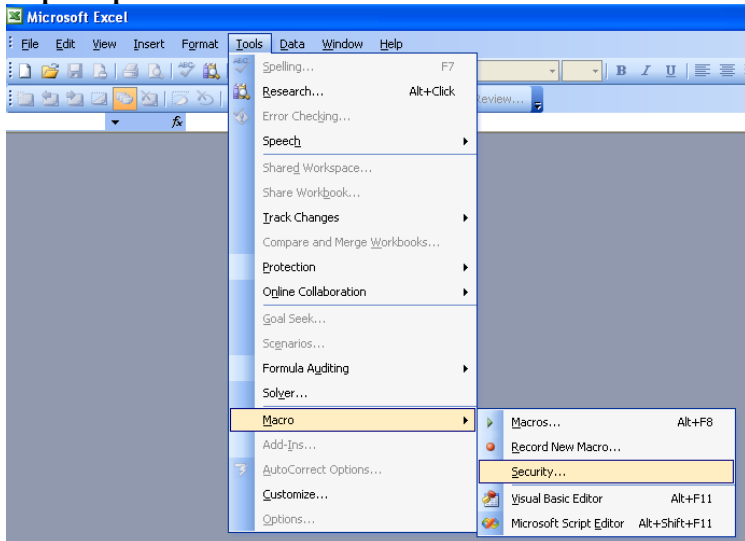
Agricultural Residue: Nut Shells	Hydro pulper refuse	Turpentine
Agricultural Residue: Oat Hulls	Industrial plastics	Used Alcohol
Agricultural Residue: Olive cake	Ink Solvents	Petroleum Refining Scrap Oil
Agricultural Residue: Olive kernel	Knots and Knotter Rejects	Reprocessed oil
Agricultural Residue: Orchard Prunings	JP-8 Aviation Fuel	Fuel oil solids (tank clean-out residue)
Low carbonate corn fiber (LCCF)	Landfill Gas	Used #6 Oil
Agricultural Residue: Pecan hulls	Latex Paint Water	Fume Filter Oil
Agricultural Residue: Post harvest biomass residues	Lightweight Asphalt	Used Gear Oil
Agricultural Residue: Rice Hulls	Lignin	Used Hydraulic Oil
Agricultural Residue: Soybean Hulls	Paunch Manure	Used Lube Oil
Agricultural Residue: Straw	Manure	Crankcase oil
Agricultural Residue: Sunflower Hulls	Manure, bedding & yard residues	Used Motor Oil
Agricultural Residue: Sunflower Husks	Mechanical Pulp Mill Rejects	Used Oil
Agricultural Residue: Sunflower Pellets	Mill trash	Used Thermal Oil
Agricultural Residue: Switchgrass	Mixed liquid residues	Off-spec used oil
Agricultural Residue: Wheat fiber (WF)	Neutralene	On-spec used oil
Agricultural Residue: Oil Seed (Rape, Canola, Corn, Beans)	Virgin Lube oil	Oil Residues/excesses/byproducts -- #6, asphalts
Agricultural Residue: Palm oil plantation byproducts (palm kernel exfoliate, fiber, shell, EFB)	Vegetable Oil	Oil Spill cleanup Residues
Agricultural Residue: Distillers Dry Grains	Yellow grease (used cooking oils- sold as commercial fuel)	Waste Derived Liquid Fuel
Agricultural Residue: Distillers grains (DG)	Nonhazardous byproduct solvent	Wax and cellophane wrapper and packaging trimmings
Agricultural Residue: Distillers grains stillage (DGS)	Noncondensable Gas (includes stripper offgas)	Wood: Adulterated Coproduct: Other wood
Agricultural Residue: Dried Distiller Grains with Solubles (DDGs)	Nonhalogenated solvent	Wood: Adulterated Coproduct: Plywood/particleboard/finished
Agricultural Residue: Dry Distiller Grains (DDG)	Oil Booms	Wood: Adulterated Coproduct: Treated
Agricultural Residue: Malt Sprouts	Orimulsion	Wood: Laminated
Agricultural Residue: Post harvest biomass residues	Oily rags	Wood: Plywood trim
Alcohol: Ethanol	Old Corrugate Cardboard (OCC) scraps	Medium Density Fiber Board Sander Dust
Alcohol: Solvent	Old corrugated container rejects	Medium Density Fiber Board Trim (some with water based primer)
Animal Fats	Paint Rags	Oriented strand board trim/dry residuals
Liquefied Chicken Fat	Paint residues	Particle Board sander dust
Tallow	Paper	Particle Board trim
Ash pile char	Compressed paper	Hardboard Dust
Bagasse	Paper broke	Wood: Balsa
Bio liquids	Paper Byproducts: knots and paper fines	Wood: Bark
Biomass	Paper cores	Wood: Briquettes

Bitumen	Paper - office waste	Wood: Chips
Black Liquor	Paper wrapper and packaging trimmings	Wood: chips- fines
Blast Furnace Gas	Pathological: Animal Remains	Wood: chips- old
Blond Fiber	Pathological: Human Remains	Wood: Dried milled lumber
Boiler ash	Peat	Wood: engineered wood plant scrap
Cardboard	Petrochemical process gas	Wood: Hardwood chipping and residues
Carpet Scrap	Petroleum Distillation Solvent	Wood: Pine and cedar trees, chipping and residues
Char	Plastics	Wood: Hardwood pellets (hammer-milled, dried, pelletized - sold as fuel)
Clarifier residuals- primary	Pine tar	Wood: Hogged Bark
Clarifier residuals- secondary	Poultry litter	Wood: Mixed
Coating Sludge	Process coproduct gas	Wood: Pallets
Dewatered sludge	Process coproduct liquid	Wood: Pellets
Industrial wastewater sludge	Process coproduct solid	Woodex pellets
Industrial sludge	Process engineered fuels	Wood: Pine and fir
Sewage Sludge	Process gas	Wood: Redwood and fir
Sludge	Pulp liquor	Wood: Shavings
Sludge without water	Pulp mill gas	Wood: Silvicultural
Wastewater Treatment Residuals	Reclaimed Ink Solvent	Wood: Timber: Little Bark
CO gas	Recovered Gaseous Butane	Wood: Timber: Mostly Bark
Composite Water	Rectified methanol	Wood: Timber: Whole Tree
Conforming Waste Materials	Red oil (steam stripper steam condensate, incl terpenes, terpenoids, methanol, TRS)	Wood: unadulterated hardwood
Construction/Demolition Derived Material	Refuse	Wood: unadulterated softwood
Cyanide	Refuse derived fuel (RDF)	Wood: waste-clean
Decorative laminate/cast polymer scrap	Reinjection char	Wood: Whole tree chips/harvest residue
Deinking residuals	Resin Solid	Wood: Hardboard pellets (hammer-milled,dried, pelletized)
Dewatered combustible residues	Restaurant oils & greases	Wood: Hardboard Residues
Coating Residues	Sander dust	Wood: Engineered Wood Plant Scrap
Foam Residues	Sawdust	Wood: Woodworking residuals (cabinet mfg)
Diaper scraps	Sawmill scrap	Wood: Laminate Production Scrap Dust
Diesel fuel	Scrap X-Ray Film	Wood: Lamination Finishing Plant Residue
Digester Gas	Screen rejects	Wood: Lamination Plant Residue

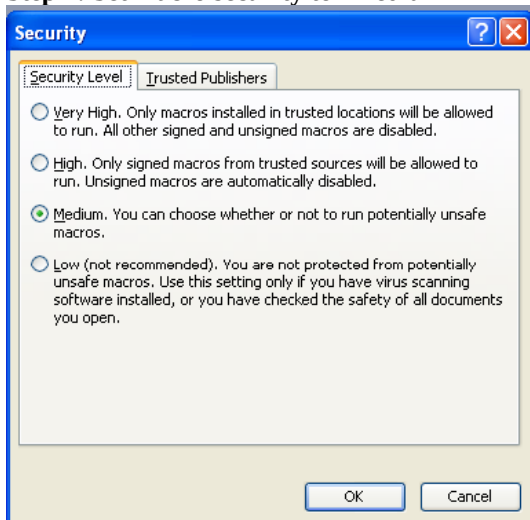
Other gas: please explain	Other solid: please explain	Wood: Railroad Ties
Other liquid: please explain		Wood: Railroad Ties Chipped

**Appendix B1: Directions for Enabling Macros in Microsoft Excel ©**

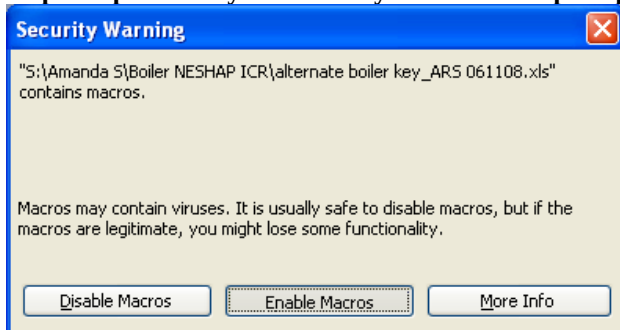
### Step 1: Open Microsoft Excel © and select Tools>>Macro>>Security



### Step 2: Set macro security to “medium”



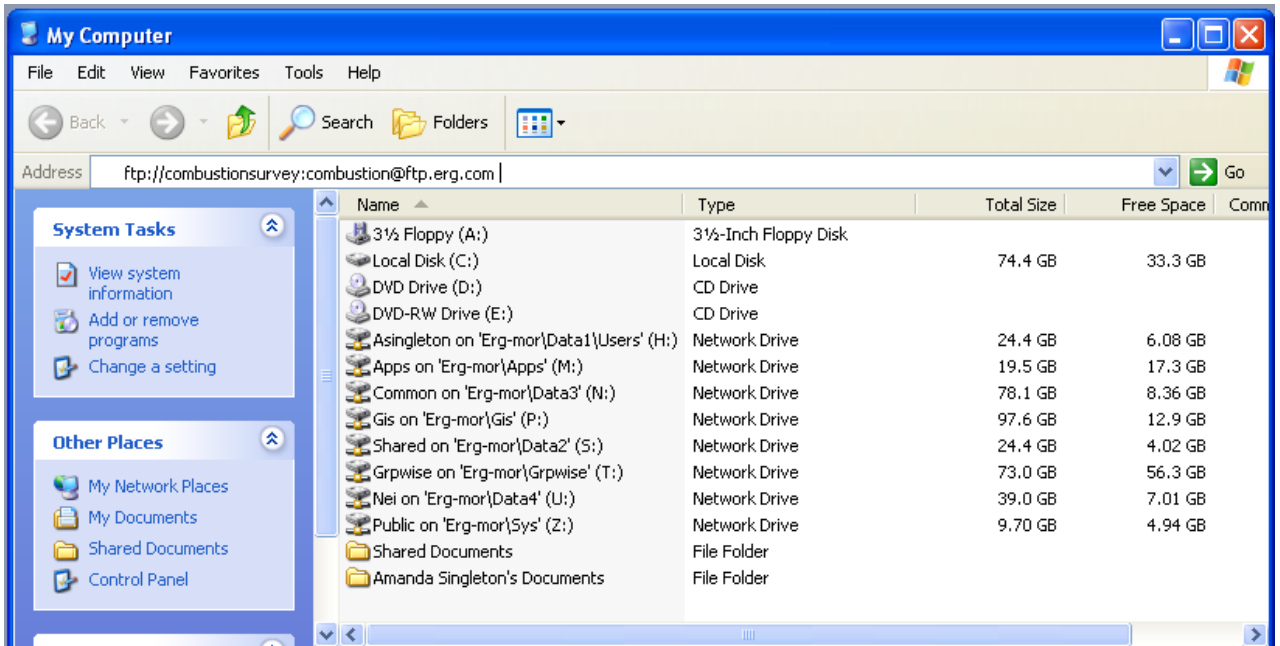
### Step 3: Open Survey Answer Key file and when prompted select “Enable Macros”



## Appendix B2: Instructions for Uploading Survey Response Files to FTP Site

The maximum total size of all file attachments that [combustionsurvey@erg.com](mailto:combustionsurvey@erg.com) may receive is 10 megabytes per e-mail. If your file attachments exceed 10 megabytes, or exceed the file attachment size allowable on your computer system you may submit your response in one of two other ways: 1) Upload your response files to the Survey FTP site, or 2) mail an electronic copy of your response files to the EPA address shown in your Section 114 letter. The steps below outline how to upload files to the FTP site:

**Step 1:** Go to “My Computer” and enter <ftp://combustionsurvey:combustion@ftp.erg.com> in the address bar. A window will open containing other files that have been uploaded to the ftp.



**Step 2:** Create a folder containing all of your survey response files. You may name the folder as follows, without using any spaces in the folder name “StateAbbreviation\_FacilityName\_City” (e.g., NC\_NCStateUniversity\_Raleigh). Copy and paste the entire folder from your computer to the window pointing to <ftp://combustionsurvey:combustion@ftp.erg.com>.

**Step 3:** To ensure that your files have been uploaded, please wait for the file transfer to complete before shutting the ftp window.

**Step 4:** Send an e-mail to [combustionsurvey@erg.com](mailto:combustionsurvey@erg.com) that lists the names of the folders you have uploaded to the ftp site.

## Appendix C: Reference Sheet To Identify Appropriate Fuel Categories in Survey Dropdown Menus Based on Specific Fuel Type Combusted in the Unit

**Instructions for Identifying Fuel Category:** Use this table below to identify which fuel grouping from column D you should select from the fuel drop down menus in the survey questions. If your specific fuel type is not listed in columns B or C, please select the fuel category "Other gas" "Other liquid" or "Other solid" and explain what specific type of other fuel you are combusting.

All Fuels - Fossil and Non-Fossil	Fuel Category in Drop-Down Menus for Survey Answer Key
Acetone: New and Used Solvent	Acetone: New and Used Solvent
Agricultural Residue: Almond Shells	Plant-based Agricultural Residue
Agricultural Residue: Almond Tree Prunings	
Agricultural Residue: Barley dust and chaff	
Agricultural Residue: Barley Needles	
Agricultural Residue: Corn Fiber	
Agricultural Residue: Corn Gluten Feed	
Agricultural Residue: Corn Mill Dryer Off-gas	
Agricultural Residue: Corn Starch Residue	
Agricultural Residue: Corn Stover	
Agricultural Residue: Cotton And Corn	
Agricultural Residue: Cotton Gin Residue	
Agricultural Residue: Cotton Stalks	
Agricultural Residue: Cottonseed Hulls	
Agricultural Residue: Fruit Pits	
Agricultural Residue: Nut Shells	
Agricultural Residue: Oat Hulls	
Agricultural Residue: Olive cake	
Agricultural Residue: Olive kernel	
Agricultural Residue: Orchard Prunings	
Low carbonate corn fiber (LCCF)	
Alcohol: Ethanol	Alcohol: Ethanol
Alcohol: Solvent	Alcohol: Solvent
Animal Fats	Animal Fat/Oils/Tallow
Liquefied Chicken Fat	
Tallow	
Ash pile char	Ash pile char
Bagasse	Bagasse
Bio liquids	Bio liquids
Biomass	Biomass
Bitumen	Bitumen
Black Liquor	Black Liquor
Blast Furnace Gas	Blast Furnace Gas
Blond Fiber	Blond Fiber

All Fuels - Fossil and Non-Fossil	Fuel Category in Drop-Down Menus for Survey Answer Key
Boiler ash	Boiler ash
Cardboard	Cardboard
Carpet Scrap	Carpet Scrap
Char	Char
Clarifier residuals- primary	Industrial Commercial or Municipal Sludge
Clarifier residuals- secondary	
Coating Sludge	
Dewatered sludge	
Industrial wastewater sludge	
Industrial sludge	
Sewage Sludge	
Sludge	
Sludge without water	
Wastewater Treatment Residuals	
CO gas	
Coal: Anthracite	Coal: Anthracite
Coal: Bituminous	Coal: Bituminous
Coal: Lignite	Coal: Lignite
Coal: Sub-bituminous	Coal: Sub-bituminous
Coal refuse – anthracite (culm)	Coal refuse
Coal refuse – bituminous (gob)	
Coal tar oil	Coal tar
Coal tar plus soil	
Composite Water	Composite Water
Conforming Waste Materials	Conforming Waste Materials
Construction/Demolition Derived Material	Construction/Demolition Derived Material
Cyanide	Cyanide
Decorative laminate/cast polymer scrap	Decorative laminate/cast polymer scrap
Deinking residuals	Deinking residuals
Dewatered combustible residues	Dewatered combustible residues
Coating Residues	Coating Residues
Foam Residues	Foam Residues
Diaper scraps	Diaper scraps
Diesel fuel	Diesel fuel
Digester Gas	Biogas
Sewage gas	
Biogas (Excluding Sewage Sludge)	
Envirofuel pellets	Envirofuel pellets
Filters	Filters
Fuel cubes (paper diaper clippings/refuse)	Fuel cubes (paper diaper clippings/refuse)
Glycerol Distillation Byproduct	Glycerol Distillation Byproduct
Heavy Recycle	Heavy Recycle
High Caustic Fuel	High Caustic Fuel
Hog fuel: Hardwood	Hog Fuel
Hog fuel: Softwood	
Hog fuel: Urban	
Lumber Refuse (hogged pallet boards/other non-treated scrap)	
Mixed wood residues	
Log Yard Cleanup	
Hydrogen	Hydrogen



All Fuels - Fossil and Non-Fossil		Fuel Category in Drop-Down Menus for Survey Answer Key
Hydro pulper refuse		Hydro pulper refuse
Industrial plastics		Industrial plastics
Ink Solvents		Ink Solvents
Knots and Knotter Rejects		Knots and Knotter Rejects
JP-8 Aviation Fuel		JP-8 Aviation Fuel
Landfill Gas		Landfill Gas
Latex Paint Water		Latex Paint Water
Lightweight Asphalt		Lightweight Asphalt
Lignin		Lignin
LPG		LPG
Paunch Manure		Manure
Manure		
Manure, bedding & yard residues		
Mechanical Pulp Mill Rejects		Mechanical Pulp Mill Rejects
Mill trash		Trash
Mixed liquid residues		Mixed liquid residues
Natural gas		Natural gas
Neutralene		Neutralene
No. 2 Distillate		No. 2 Distillate
No. 4 Fuel oil		No. 4 Fuel oil
No. 5 Fuel oil		No. 5 Fuel oil
No. 6 Residual oil		No. 6 Residual oil
Virgin Hydraulic Oil		Other Petroleum-based Oils
Lube oil (virgin)		
Virgin Gear Oil		
Vegetable Oil		Vegetable Oil
Yellow grease (used cooking oils- sold as commercial fuel)		Yellow grease (used cooking oils- sold as commercial fuel)
Nonhazardous byproduct solvent		Nonhazardous byproduct solvent
Noncondensable Gas (includes stripper offgas)		Noncondensable Gas (includes stripper offgas)
Nonhalogenated solvent		Nonhalogenated solvent
Oil Booms		Oil Booms
Orimulsion		Orimulsion
Oily rags		Oily rags
Old Corrugate Cardboard (OCC) scraps		Corrugate Cardboard or Container Scraps
Old corrugated container rejects		
Paint Rags		Paint Rags/Residues
Paint residues		
Paper		Paper and Paper Residues
Compressed paper		
Paper broke		
Paper Byproducts: knots and paper fines		
Paper cores		
Paper - office waste		
Paper wrapper and packaging trimmings		
Pathological: Animal Remains		
Pathological: Human Remains		
Peat		Peat
Petrochemical process gas		Petrochemical process gas
Petroleum coke		Coke Oven Gas
Coke Oven Gas		

All Fuels - Fossil and Non-Fossil		Fuel Category in Drop-Down Menus for Survey Answer Key
Petroleum Distillation Solvent		Petroleum Distillation Solvent
Petroleum refining process gas		Refinery gas
Refinery gas		
Plastics		Plastics
Pine tar		Pine tar
Poultry litter		Poultry litter
Process coproduct gas		Process coproduct gas
Process coproduct liquid		Process coproduct liquid
Process coproduct solid		Process coproduct solid
Process engineered fuels		Process engineered fuels
Process gas		Process gas
Propane		Propane
Pulp liquor		Pulp liquor
Pulp mill gas		Pulp mill gas
Reclaimed Ink Solvent		Reclaimed Ink Solvent
Recovered Gaseous Butane		Recovered Gaseous Butane
Rectified methanol		Rectified methanol
Red oil (steam stripper steam condensate, incl terpenes, terpenoids, methanol, TRS)		Red oil (steam stripper steam condensate, incl terpenes, terpenoids, methanol, TRS)
Refuse		Refuse
Refuse derived fuel (RDF)		Refuse derived fuel (RDF)
Reinjection char		Reinjection char
Resin Solid		Resin Solid
Restaurant oils & greases		Restaurant oils & greases
Scrap X-Ray Film		Scrap X-Ray Film
Screen rejects		Screen rejects
Shredded cloth		Shredded cloth
Solid paraffin		Solid paraffin
Solvents		Solvents
Spent Coffee Grounds		Spent Coffee Grounds
Spent Oxide		Spent Oxide
Stripper condensate		Stripper condensate
Sulfur Free Organic Byproduct		Sulfur Free Organic Byproduct
Sunwax- Diatomaceous earth with sunflower oil wax		Sunwax- Diatomaceous earth with sunflower oil wax
Tall oil, tall oil derivatives		Tall oil, tall oil derivatives
Tar		Tar
Tire Chips		Tire Derived Fuel (TDF)
Tire Derived Fuel (TDF)		
Tires (whole)		Tires (whole)
Toluene		Toluene
Turkey brood woodwaste		Turkey brood woodwaste
Turpentine		Turpentine
Used Alcohol		Used Alcohol
Petroleum Refining Scrap Oil	Used Oil	Used Petroleum-based Oils
Reprocessed oil	Used Thermal Oil	
Fuel oil solids (tank clean-out residue)	Off-spec used oil	
Used #6 Oil	On-spec used oil	
Fume Filter Oil	Oil Residues/excesses/byproducts -- #6, asphalts	
Used Gear Oil	Oil Spill cleanup Residues	
Used Hydraulic Oil	Used Lube Oil	

All Fuels - Fossil and Non-Fossil	Fuel Category in Drop-Down Menus for Survey Answer Key
Used Lube Oil	
Crankcase oil	
Used Motor Oil	
Waste Derived Liquid Fuel	Waste Derived Liquid Fuel
Wax and cellophane wrapper and packaging trimmings	Wax and cellophane wrapper and packaging trimmings
Wood: Adulterated Coproduct: Other wood	Wood: Treated OR Wood: Painted or Varnished OR Wood: plywood, particleboard (containing glues or resins)
Wood: Adulterated Coproduct: Plywood/particleboard/finished	
Wood: Adulterated Coproduct: Treated	
Wood: Laminated	
Wood: Plywood trim	
Medium Density Fiber Board Sander Dust	
Medium Density Fiber Board Trim (some with water based primer)	
Oriented strand board trim/dry residuals	
Particle Board sander dust	
Particle Board trim	
Hardboard Dust	
Wood: Balsa	
Wood: Bark	
Wood: Briquettes	
Wood: Chips	
Wood: chips- fines	
Wood: chips- old	
Wood: Dried milled lumber	
Wood: engineered wood plant scrap	
Wood: Hardwood chipping and residues	
Wood: Pine and cedar trees, chipping and residues	
Wood: Hardwood pellets (hammer-milled, dried, pelletized - sold as fuel)	
Wood: Hogged Bark	
Wood: Mixed	
Wood: Pallets	
Wood: Pellets	
Woodex pellets	Woodex pellets
Other gas: please explain	Other gas: please explain
Other liquid: please explain	Other liquid: please explain
Other solid: please explain	Other solid: please explain

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