

Emissions Inventory EXAMPLE: Natural Gas Boilers and Heating Equipment

General Process Form 2018

Permit number(s) _____

Place an X in any gray cell to mark data requested to be held confidential. See Instructions for requirements for information to be deemed confidential.

- 1- Process ID 1
- 2- Process Type/Description: 3 boilers & 1 water heater, each rated less than 10,000,000 Btu/hr
- 3- Stack ID(s) (only if required on Stack Form) _____
- 4- Process TIER Code: 020301 FUEL COMBUSTION NATURAL GAS
- 5- SCC Code 10200603 (8 digit number) INDUSTRIAL NATURAL GAS COMBUSTION < 10 MMBTU/HR
- 6- Seasonal Throughput Percent: Dec-Feb 25% Mar-May 25% Jun-Aug 25% Sep-Nov 25%
- 7- Normal Operating Schedule: Hours/Day 18 Days/Week 6 Hours/Year 5616 Weeks/Year 52
- 8- Typical Hours of Operation (military time) Start 0600 End 2359
- 9- Emissions based on: (name of material or other parameter e.g. "rock", "diesel", "vehicle miles traveled") natural gas
- 10- Used (input) or Produced (output) or Existing (e.g. VMT, acres)
- 11- Annual Amount: (a number) 25,000 12- Fuel Sulfur Content (in percent) _____
- 13- Unit of Measure: (for example: tons, gallons, million cu ft, acres, units produced, etc.) therms
- 14- Unit Conversion Factor: (if needed to convert Unit of Measure to correlate with Emission Factor Units) 0.0000952

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15	Emission Factor (EF) Information				Control Device Information					25
	16	17	18	19	20	21	22	23	24	
Pollutant	Emission Factor (EF) (number)	Emission Factor Unit (lb per)	Controlled EF? Yes or No	Calculation Method Code*	Capture% Efficiency	Primary Control Device ID	Secondary Control Device ID	Control Device(s) % Efficiency	Efficiency Reference Code**	Estimated Actual Emissions
<i>CO</i>	<i>84</i>	<i>lb/MMCF</i>	<i>No</i>	<i>5</i>						<i>200</i> lb
<i>NOx</i>	<i>100</i>	<i>lb/MMCF</i>	<i>No</i>	<i>5</i>						<i>238</i> lb
<i>PM10</i>	<i>7.6</i>	<i>lb/MMCF</i>	<i>No</i>	<i>5</i>						<i>18</i> lb
<i>SOx</i>	<i>0.6</i>	<i>lb/MMCF</i>	<i>No</i>	<i>5</i>						<i>1</i> lb
<i>VOC</i>	<i>5.5</i>	<i>lb/MMCF</i>	<i>No</i>	<i>5</i>						<i>13</i> lb

NOTE: This is the most common natural gas equipment type. The TIER code on line 4 and emission factors in column 16 are suitable for any size natural gas heating equipment (but NOT engines). Emissions are calculated as follows:

Annual amount (line 11) × unit conversion factor (line 14) × EF (col. 16) = col. 25, Estimated Pollutant Emissions.

Example for CO: 25,000 therms × 0.0000952 MMCF/therm = 2.38 MMCF × 84 lb/MMCF = 200 lb. CO emissions

***Calculation Method Codes:**

- 1 = Continuous Emissions Monitoring Measurements
- 2 = Best Guess/ Engineering Judgment
- 3 = Material Balance
- 4 = Source Test Measurements (Stack Test)
- 5 = AP-42/ FIRE Method or Emission Factor

- 6 = State or Local Agency Emission Factor
- 7 = Manufacturer Specifications
- 8 = Site-Specific Emission Factor
- 9 = Vendor Emission Factor
- 10 = Trade Group Emission Factor

****Control Efficiency Reference Codes**

- 1 = Tested efficiency / EPA reference method
- 2 = Tested efficiency / other source test method
- 3 = Design value from manufacturer
- 4 = Best guess / engineering estimate
- 5 = Calculated based on material balance
- 6 = Estimated, based on a published value