EXTERNAL COMBUSTION EQUIPMENT SUMMARY FORM-33

(This form must be submitted for each equipment item)

GENERAL

1. MANUFACTURER ____________________________ MODEL NO. ____________________________
2. SERIAL NO. ____________________________ OPERATOR ID ____________________________
3. EQUIPMENT USED AS A CONTROL DEVICE? [ ] YES [ ] NO DATE OF INSTALLATION ____________________________
   (leave blank if not installed)
4. EQUIPMENT TYPE (Check one)
   [ ] Steam Boiler                       [ ] Afterburner Material Dried, Baked, or Heated
   [ ] Steam Generator                   [ ] Dryer
   [ ] Hot Water Boiler                  [ ] Oven
   [ ] Heater Treater                    [ ] Furnace
   [ ] Process Heater                    [ ] Klin
   [ ] Incinerator                       [ ] Other (Describe)
   Class Type Waste ____________________

5. GENERAL INFORMATION REQUIRED: The following general information is required for processing the permit application:
   - Site and plot plan, with dimensions, showing the location of the combustion unit.
   - General description of the business.
   - Description of the general purpose of the combustion unit and its associated production and/or process line.
   - New Source Review information. Submit information required by Section E of Rule 204 (Applications) if BACT, AQIA, Offsets or Health Risk Assessment is required.

6. SIC NUMBER ____________________________
   Submit manufacturer's literature, catalog, or equivalent information for the combustion unit.

EQUIPMENT RATING

7. MAXIMUM HEAT INPUT ____________________________ MMBtu/hr (report all Btu values in x.xxx format)

8. MAXIMUM ANNUAL HEAT INPUT(a) ____________________________ MMBtu/year
   (a) This value represents the maximum requested annual heat input to your equipment and will be listed as a not-to-exceed limit on your permit. (Note: 1 Therm = 100,000 Btu)

9. BURNER MANUFACTURER ____________________________ NO. OF BURNERS ____________________________
    MODEL NO. ____________________________ INPUT: Maximum ____________________________ MMBtu/hr

Company Name ____________________________ Facility Name ____________________________

Person Completing This Form (please print) ____________________________ Date ____________________________

APCD-33 (01/22/2020) Rev.04
**FUEL DATA**

10. **FUEL USED** *(Select all that apply)*

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUC Quality Natural Gas</td>
<td>[ ]</td>
</tr>
<tr>
<td>Oilfield Field Gas</td>
<td>[ ]</td>
</tr>
<tr>
<td>Propane - Commercial Grade</td>
<td>[ ]</td>
</tr>
<tr>
<td>Propane - HD5 Grade</td>
<td>[ ]</td>
</tr>
<tr>
<td>LPG - Commercial Grade</td>
<td>[ ]</td>
</tr>
<tr>
<td>Landfill Gas</td>
<td>[ ]</td>
</tr>
<tr>
<td>Diesel Fuel #2</td>
<td>[ ]</td>
</tr>
<tr>
<td>Residual Fuel #</td>
<td>[ ]</td>
</tr>
<tr>
<td>Jet Fuel <em>(Specify)</em></td>
<td>[ ]</td>
</tr>
<tr>
<td>Pathological Waste <em>(Specify)</em></td>
<td>[ ]</td>
</tr>
<tr>
<td>Solid Waste <em>(Specify)</em></td>
<td>[ ]</td>
</tr>
<tr>
<td>Other-Gaseous Fuel</td>
<td>[ ]</td>
</tr>
<tr>
<td>Other-Liquid Fuel</td>
<td>[ ]</td>
</tr>
<tr>
<td>Other-Solid Fuel</td>
<td>[ ]</td>
</tr>
<tr>
<td>Propane - Commercial Grade</td>
<td>[ ]</td>
</tr>
<tr>
<td>Propane - HD5 Grade</td>
<td>[ ]</td>
</tr>
<tr>
<td>LPG - Commercial Grade</td>
<td>[ ]</td>
</tr>
<tr>
<td>Landfill Gas</td>
<td>[ ]</td>
</tr>
<tr>
<td>Diesel Fuel #2</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

11. **PRIMARY FUEL** *(Fuel #1)*

12. **SECONDARY FUEL** *(Fuel #2)*

13. **HIGHER HEATING VALUE** *(HHV)* *(Circle appropriate units)*

   Fuel #1: **Btu/scf, Btu/gal, Btu/lb**

14. **SULFUR CONTENT** *(Circle appropriate units)*

   Fuel #1: **% by wt., ppmvd as S**

   Fuel #2: **% by wt., ppmvd as S**

15. **IS EQUIPMENT FIRED ON MORE THAN ONE FUEL?**

   [ ] **YES**

   [ ] **NO** *(If yes, fill in Section 15 below)*

16. **MULTIPLE FUELS**

   [ ] **Primary or Secondary Fuel Fired as Needed** *(Either fuel may be used to supply the total maximum heat input)*

   [ ] **Gas Is Primary Fuel. Non-Gaseous Fuel Used As a Backup During Times of Natural Gas Curtailment or Testing According to Section B.2 of Rule 342 (Annual cumulative allowance of 168 hours for curtailment and 24 hours for testing)*


   [ ] **Secondary Fuel Is Fired Simultaneously with the Primary Fuel** *(Describe)*

   [ ] **Other** *(Describe)*

17. **INCINERATORS**

   a. **Maximum Hourly Design Charge Rate** **lbs/hr**

   b. **Residence Time** **seconds**

   c. **Total Horizontal Inside Cross-Sectional Area** **ft²**

   d. **Does This Equipment Incinerate Medical Waste**

   [ ] **YES**

   [ ] **NO** *(If yes, please provide detailed information which addresses compliance with Rule 340)*

   e. **Is the Equipment of the Multiple-Chamber Design**

   [ ] **YES**

   [ ] **NO** *(If no, please provide detailed information supporting an equivalent design per Rule 308)*
## EMISSION CALCULATIONS

17. **EMISSION FACTOR**

\( \text{(Contact APCD with any questions - If left blank, default APCD emission factors will be used)} \)

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>FUEL #1</th>
<th>FUEL #2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FACTOR</td>
<td>UNITS</td>
</tr>
<tr>
<td>NO(_x) (as NO(_2))</td>
<td>lb/MMBtu</td>
<td></td>
</tr>
<tr>
<td>ROC</td>
<td>lb/MMBtu</td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>lb/MMBtu</td>
<td></td>
</tr>
<tr>
<td>SO(_x) (as SO(_2))</td>
<td>lb/MMBtu</td>
<td></td>
</tr>
<tr>
<td>PM</td>
<td>lb/MMBtu</td>
<td></td>
</tr>
<tr>
<td>PM(_{10})</td>
<td>lb/MMBtu</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

(a) Emission factors are used to establish allowable emissions on your permit.
(b) Units “lb/MMBtu” based on the higher heating value. Incinerator applications must state the units used (e.g., lb/ton).
(c) Basis Codes:
   1. Site specific source tests, CEMS or PEMS data (attach copy)
   2. Specifications by manufacturer (attach copy)
   3. Material balance (attach copy of calculations)
   4. Taken from AP-42 (Compilation of Air Pollution Emission Factors, EPA, 5th Edition, Chapter 1)
   5. Taken from Literature other than AP-42 (attach copy)

(d) SO\(_2\) emission factors are based mass balance calculations:
   - For liquid Fuels: \( \text{SO}_x \text{ EF} \text{ (lb SO}_x/\text{MMBtu)} = [20,000 \times \text{wt \% S}] / \text{HHV, Btu/gal} \)
   - For gases: \( \text{SO}_x \text{ EF} \text{ (lb SO}_x/\text{MMBtu)} = [0.169 \times \text{ppmv S}] / \text{HHV, Btu/scf} \)
   Ex: Low sulfur diesel \#2 (0.05% S by wt) EF = 0.0504 lb SO\(_x\)/MMBtu
   Ex: PUC Quality Natural Gas (85 ppmvd S) EF = 0.0137 lb SO\(_x\)/MMBtu

18. **EMISSIONS**

\( \text{(Contact APCD with any questions)} \)

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>FUEL #1</th>
<th>FUEL #2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LB/DAY</td>
<td>TON/YEAR</td>
</tr>
<tr>
<td>NO(_x) (as NO(_2))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO(_x) (as SO(_2))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM(_{10})</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

(a) Emissions are calculated based on the emission factor used. For daily emissions, multiply the max firing rate times the emission factor and then times 24 (hr/day). For annual emissions, multiply the max annual heat input times the emission factor and then divide by 2000 (lb/ton).
(b) Report all emissions to two (2) decimal places (x.xx)
VENT/STACK DATA
19. a. INSIDE DIAMETER _____________ inch  STACK EXIT TEMPERATURE _____________ °F
   b. STACK HEIGHT ______________ feet  STACK HEIGHT ______________ feet
      (above grade)  (above the building)
   c. MAXIMUM STACK GAS FLOW ______________ dry scfm @ 3% O₂

20. STACK SERVES [ ] This Equipment Only
    [ ] Other Equipment Also (Submit type and rating of all of all other equipment exhausted through this vent/stack)

EMISSION CONTROL DEVICES
21. ARE EMISSION CONTROLS USED?  □ YES □ NO (If yes, continue)
   MAKE                      MODEL

   [ ] Low-NOx Burners
   [ ] Exhaust-Gas Recirculation
      % Recirc
   [ ] Staged Combustion
   [ ] Ammonia/Urea Injection - SNCR
   [ ] Selective Catalytic Reduction
   [ ] Other
   (Describe) __________________________________________________________

Submit manufacturers’ literature, catalog, or equivalent information for each control device.

PROCESS PARAMETER DEVICES
22. [ ] YES [ ] NO OXYGEN TRIM, TRIM SETTING ____________________ % O₂
    [ ] YES [ ] NO CONTINUOUS EMISSION MONITOR(S), POLLUTANTS MONITORED ________________________

    [ ] OTHER (Describe) __________________________________________________________

23. IS FUEL USE MONITORED?  [ ] YES [ ] NO (If yes, continue)
   a. [ ] Dedicated Meter
      [ ] Shared Meter, List of Equipment Items Sharing This Meter

      [ ] YES [ ] NO For Gaseous Fuels: Is the fuel meter pressure corrected?
   b. Type of Fuel Meter (type design, mfg and model no.) ________________________________

Submit manufacturer’s literature, catalog, or equivalent information for each monitoring/metering device.