# External Combustion Equipment Summary Form-33

**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  
   - [ ] Steam Generator  
   - [ ] Hot Water Boiler  
   - [ ] Heater Treater  
   - [ ] Process Heater  
   - [ ] Incinerator  
   - [ ] Other (Describe)  

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** ____________________________ 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

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**Company Name** ____________________________  **Facility Name** ____________________________  
**Person Completing This Form (please print)** ____________________________  **Date** ____________________________

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10. FUEL USED (Select all that apply)

[ ] PUC Quality Natural Gas
[ ] Oilfield Field Gas
[ ] Propane - Commercial Grade
[ ] Propane - HD5 Grade
[ ] LPG - Commercial Grade
[ ] Landfill Gas
[ ] Diesel Fuel #2
[ ] Residual Fuel Oil #
[ ] Jet Fuel (Specify)
[ ] Pathological Waste (Specify)
[ ] Solid Waste (Specify)
[ ] Other-Gaseous Fuel
[ ] Other-Liquid Fuel
[ ] Other-Solid Fuel

11. PRIMARY FUEL ____________________________ (Fuel #1)
SECONDARY FUEL ____________________________ (Fuel #2)

12. HIGHER HEATING VALUE (HHV) (Circle appropriate units)

Fuel #1 ______________ (Btu/scf, Btu/gal, Btu/lb)  Fuel #2 ______________ (Btu/scf, Btu/gal, Btu/lb)

13. SULFUR CONTENT (Circle appropriate units)

Fuel #1 ______________ (% by wt., ppmvd as S)  Fuel #2 ______________ (% by wt., ppmvd as S)

14. IS EQUIPMENT FIRED ON MORE THAN ONE FUEL?  [ ] YES  [ ] NO (If yes, fill in Section 15 below)

15. 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) ________________________________

16. INCINERATORS

a. Maximum Hourly Design Charge Rate ______________ lbs/hr  Max Annual Input ____________ tons/year

b. Residence Time ______________ seconds  Combustion Temperature ______________ °F

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 FACTOR

17. EMISSION FACTOR\(^{(a)}\) (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(^{(b)})</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, 5\(^{th}\) Edition, Chapter 1)
   5. Taken from Literature other than AP-42 (attach copy)

(d) SO\(_x\) emission factors are based mass balance calculations:
   - for liquid Fuels: \(\text{SO}_x\) EF \(= \frac{20,000 \times \text{wt. % S} \times \text{density, lb/gal}}{\text{HHV, Btu/gal}}\)
   - for gases: \(\text{SO}_x\) EF \(= \frac{0.169 \times \text{ppmv S}}{\text{HHV, Btu/scf}}\)

**Example:**
- Low sulfur diesel #2 (0.05% S by wt) EF = 0.0504 lb SO\(_x\)/MMBtu
- PUC Quality Natural Gas (85 ppmvd S) EF = 0.0137 lb SO\(_x\)/MMBtu

### EMISSIONS

18. EMISSIONS (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
b. STACK HEIGHT: _____________________ feet
   (above grade)
   STACK HEIGHT: _____________________ feet
   (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.