Southwest Clean Air Agency

Notice of Construction Attachment

INDUSTRIAL FIELD ASSEMBLED BOILER INFORMATION

Parent Company Name

Plant Name

I. General (check appropriate square(s)):

A. Service Conditions: Details:

☐ Power Generation
☐ Process Steam
☐ Waste Heat Recovery
☐ Chemical Recovery
☐ Incineration Features
☐ Space Heat
☐ Other

B. Description:

1. Manufacturer: _______________________________________________________________________
2. Type and Model No.: _________________________________________________________________
3. Fuel Heat Input: ________________ (Btu/hr)
4. Fuel Heating Value: ________________ (Btu/lb or Btu/ft³)
5. Installation Date: ________________
6. Dates of Major Rebuilds: __________ __________ __________
7. Dates of Major Revisions: __________ __________ __________
8. Drawings: _______________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

C. Characteristics:

☐ Fire Tube
☐ Water Tube
☐ Straight Tube
☐ Bent Tube

D. Firing

☐ Dry Bottom
☐ Wet Bottom
☐ Fluidized Bed
☐ Dutch Oven
☐ Direct-Fired Solid Fuel
☐ Single-Fuel Burner(s)
☐ Combination Burner(s)
☐ Mechanical Atomization  ☐ Steam Atomization
☐ Rotary Cup  ☐ Air Atomization
☐ Other

Stoker-Fed:

☐ Over-Fed:
☐ Traveling Grate
☐ Shaker Grate
☐ Stationary Grate

☐ Under-Fed
☐ Spreader
☐ Hand

Geometry:

☐ Cyclonic
☐ Tangential
☐ Direct Entry
☐ Other

Combustion Air:  Point(s) of Introduction:  Temperatures:  Preheated ☐

☐ Primary __________________________  __________________________
☐ Secondary __________________________  __________________________
☐ Tertiary __________________________  __________________________
☐ Other __________________________  __________________________

II. Ratings:

A. Steam Generation (lb/hr):

1. Average Design Load Conditions: _________ @ _______ PSIG & _______ °F

2. Rated Boiler Capacities, Burning: _________ (Fuels:) _________

   (_______)(_______)(_______)(_______)

   a. Continuous _________ _________ _________ _________

   b. Peaking Rate (lb/hr) Time Period

      _________ _________

      _________ _________

3. Turn-Down: __________________________

   __________________________
B. Performance:

1. Inputs-1,000 Btu/hr (HHV): _______________ (Fuels:____________)

2. Efficiencies: __________ __________ __________ __________
   a. Over-all, __________ __________ __________ __________
      at conditions: __________ __________ __________ __________
   b. A.S.M.E. Short-form (for units >250 mmBtu/hr input) Btu/lb Fuel Fired
      (1) Energy absorbed by boiler fluid:
      (2) Energy loss due to dry flue gases:
      (3) Energy loss due to moisture in fuel:
      (4) Energy loss due to evaporating and superheating moisture formed by combustion of hydrogen:
      (5) Energy loss due to incomplete combustion of carbon to CO:
      (6) Energy loss due to combustible in refuse:
      (7) Energy loss due to radiation and unaccounted for:
         (Based on __________ (Btu/lb) for __________)

3. Applicable NSPS:
   ☐ 40 CFR 60.40 (Subpart D) >250 mmBtu/hr constructed/modified after 8/17/71
   ☐ 40 CFR 60.40a (Subpart Da) >250 mmBtu/hr constructed/modified after 9/18/78
   ☐ 40 CFR 60.40b (Subpart Db) ≥100 and ≤250 mmBtu/hr constructed/modified after 6/19/84
   ☐ 40 CFR 60.40c (Subpart Dc) ≥10 and <100 mmBtu/hr constructed/modified after 6/9/89

4. NSPS Emission Limits:

   SO₂   NOₓ as NO₂   PM   PM₁₀   CO   VOC
   ______   ________   ______   ______   ______   ______
   ☐ CEM required, which pollutants: ☐ SO₂  ☐ NOₓ  ☐ PM  ☐ CO

III. Physical Description:

A. Furnace Parameters Dutch Oven Parameters
   (as applicable) (as applicable)

   1. Reference Drawings: __________________________
      2. Dimensions: __________________________
      3. Grate Area: __________________________
4. Water Cooled Surfaces---
Descriptions and square feet:
   a. ___________________________________________
      ___________________________________________
   b. ___________________________________________
      ___________________________________________
   c. ___________________________________________
      ___________________________________________

5. Combustion Air Controls---
Describe ___________________________________________
   ___________________________________________
   ___________________________________________

6. Burner Specifications:

<table>
<thead>
<tr>
<th>Type, Make, Model #</th>
<th>Fuel Fired</th>
<th>Rating (Btu/hr)</th>
<th>Number Installed</th>
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<tbody>
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<td>b.</td>
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<td>c.</td>
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</table>

7. Stoker Specifications (as appropriate):

   a. ___________________________________________
      ___________________________________________
      ___________________________________________
   b. ___________________________________________
      ___________________________________________
      ___________________________________________

8. Reinjection Details:_____________________________________________________________
   _____________________________________________________________
   _____________________________________________________________

9. Combustion Control (see also Section III-F):
   a. Description:_____________________________________________________
      _____________________________________________________________
      _____________________________________________________________
   b. Schematic Drawings:____________________________________________
      _____________________________________________________________
      _____________________________________________________________
10. Ash Removal:
   a. Description of Method(s):
      (1) _________________________________________________________________________
          _________________________________________________________________________
      (2) _________________________________________________________________________
          _________________________________________________________________________

B. Evaporative Sections (in addition to area previously noted):
   1. Convection Area: Surface Area (ft$^2$)
      a. First Pass _______________________
      b. Second Pass _______________________
      c. Third Pass _______________________
      d. Other (specify as fire tube, etc.) _______________________

   2. Screen:

   3. Superheater:
      a. Radiant _______________________
      b. Convection _______________________

   4. Reheat _______________________

   5. Economizer _______________________

   6. Other (specify):__________________

C. Soot Blowers:
   1. Type, Make Model No. Location Number
      ________________________  __________________  __________
      ________________________  __________________  __________
      ________________________  __________________  __________

   2. Operating Schedule(s):
      ____________________________________________
      ____________________________________________
3. Boiler Conditions While Operating:

___________________________________________________________________________________
___________________________________________________________________________________
___________________________________________________________________________________
___________________________________________________________________________________

D. Steam Drums:

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<th>Designation</th>
<th>Inside Dimensions</th>
<th>Number</th>
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</table>

E. Draft Side Equipment:

1. Air Preheater(s): Type, Make, Model No. Ratings

a. ____________________________________________

b. ____________________________________________

2. Fans: Ratings (max. design) Drive CFM @ S.P. & Gas Conditions Description (Horse Power)

a. Forced Draft:
   (1) Maximum: ____________________________
           Design: ____________________________
   (2) Type, Make, Model: ____________________________

b. Induced Draft:
   (1) Maximum: ____________________________
           Design: ____________________________
   (2) Type, Make, Model: ____________________________

c. Other (specify):
   (1) Maximum: ____________________________
           Design: ____________________________
   (2) Type, Make, Model: ____________________________
3. Stack: Height Inside Diameter
   a. Configuration: ___________________ ___________________
   b. Sampling Ports: Location Number Access Description
      ____________________________
      ____________________________
      ____________________________
   c. Other Units Connected to Stack (list):
      ____________________________
      ____________________________
      ____________________________
   d. Bypass Capability - explain:
      ____________________________
      ____________________________
      ____________________________

F. Instrumentation and Control:

<table>
<thead>
<tr>
<th>Gage or Meter</th>
<th>Controller/ Recorder</th>
<th>Manual</th>
<th>Auto</th>
<th>Schematic Reference</th>
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<td>4. Steam Flow:</td>
<td>___________________</td>
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</table>
   | 5. Flue Gas, Temperature, Emission Control, etc.: (note)
   | a.              | ___________________ | ______ | _____ | __________________ |
   | b.              | ___________________ | ______ | _____ | __________________ |
   | c.              | ___________________ | ______ | _____ | __________________ |
   | d.              | ___________________ | ______ | _____ | __________________ |
   | e.              | ___________________ | ______ | _____ | __________________ |
   | f.              | ___________________ | ______ | _____ | __________________ |
   | g.              | ___________________ | ______ | _____ | __________________ |
   | h.              | ___________________ | ______ | _____ | __________________ |
IV. Operating Parameters:

A. Fuels Burned (list): __________________ __________________

1. Maximum Rate: __________________ __________________
   __________________ __________________
   __________________ __________________

2. Higher Heating Value (BTU/same units as above): __________________ __________________
   __________________ __________________

3. Proximate Anal. (as received): Average Maximum
   a. Moisture __________________
   b. Ash __________________

4. Ultimate Analysis: (wt.%, dry basis)
   a. Sulfur __________________
   b. Hydrogen __________________
   c. Carbon __________________
   d. Nitrogen __________________
   e. Oxygen __________________

B. Operating Schedule:

1. Anticipated % of Annual Through-Put (by quarter):
   Fuel: __________________ __________________
   Period: __________________ __________________
   Dec-Feb __________________ __________________ __________________
   Mar-May __________________ __________________ __________________
   Jun-Aug __________________ __________________ __________________
   Sep-Nov __________________ __________________ __________________

2. Normal Schedule:
   Period: Hrs/Day Days/Wk Wks/Period
   Dec-Feb __________________ __________________ __________________
   Mar-May __________________ __________________ __________________
   Jun-Aug __________________ __________________ __________________
   Sep-Nov __________________ __________________ __________________

3. Scheduled Shut-Downs:

___________________________________________________________________________________
___________________________________________________________________________________
C. Gas Profiles (Please complete where data is readily obtainable or reasonably estimated. Underline all estimated values. Note that the profile desired is for maximum average firing conditions with the most likely fuel inputs.)

Firing conditions for following profile:___________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________

<table>
<thead>
<tr>
<th></th>
<th>Temp. (°F)</th>
<th>Velocity (FPM)</th>
<th>Flow Rate (ACFM)</th>
<th>Static Press ('H₂O±)</th>
<th>Gas Conditions</th>
<th>Contaminant Loadings</th>
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<td>Density (#/Ft³)</td>
<td>Moist. (-Volume %)</td>
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<td>Static Press</td>
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<td>(ACFM)</td>
<td>('H₂O±)</td>
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<td>Moist.</td>
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<td>PM (gr/dscf)</td>
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V. Order-of-Magnitude Installed Cost Estimates: ($$)

A. Site Preparation

B. Foundations and Building(s)

C. Basic Boiler (excluding items listing in categories D-G below)

D. Boiler-Related

   1. Fuels and Fuel-Preparation Systems
   2. Feedwater and Feedwater Preparation Systems
   3. Draft Equipment, Including Stack
   4. Instrumentation and Control Systems
   5. Associated Piping, Electrical, Insulation, etc.
   6. Other (specify):

E. Air Contaminant Control Sections:
   (specify)

   1. ___________________________________
   2. ___________________________________
   3. ___________________________________
   4. ___________________________________
   5. ___________________________________

F. Engineering, Administrative, Supervisory and Start-up Expenses

G. Other (specify):

PROJECT TOTAL: ___________________________________