

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 NO_x as NO₂ PM PM₁₀ CO VOC

- CEM required, which pollutants: SO₂ NO_x PM CO
- _____
- _____

III. Physical Description:

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

Type, Make, Model #	Fuel Fired	Rating (Btu/hr)	Number Installed
a. _____	_____	_____	_____
b. _____	_____	_____	_____
c. _____	_____	_____	_____

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 (ft²)

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:

Designation	Inside Dimensions	Number
_____	_____	_____
_____	_____	_____
_____	_____	_____

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:

	Gage or Meter	Controller/ Recorder	Manual	Auto	Schematic Reference
1. Feed Water:	_____	_____	_____	_____	_____
2. Draft: (note)	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
3. Fuel: (note)	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
4. Steam Flow:	_____	_____	_____	_____	_____
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: _____

	Temp. (°F)	Velocity (FPM)	Flow Rate (ACFM)	Static Press ("H ₂ O±)	Gas Conditions				Contaminant Loadings				
					Density (#/Ft ³)	Moist. (-Volume %-)	O ₂	CO ₂	PM (gr/dscf)	SO ₂	NO _x	as NO ₂	CO
1. Combustion Air													
a. FD Fan:													
(1) Inlet													
(2) Outlet													
b. Primary Air													
c. Secondary Air													
d. Tertiary													
e. Other (note)													
2. Dutch Oven													
3. Combustion Chamber													
4. Furnace													
5. Passes:													
a. First													
b. Second													
c. Last													
6. Boiler Outlet													
7. Economizer:													
a. Flue Gas Inlet													

	Temp. (°F)	Velocity (FPM)	Flow Rate (ACFM)	Static Press ($"H_2O \pm$)	Gas Conditions				Contaminant Loadings				
					Density (#/Ft ³)	Moist. (-Volume % -)	O ₂	CO ₂	PM (gr/dscf)	SO ₂	NO _x	as NO ₂	CO
b. Flue Gas Outlet													
8. Preheater(s):													
a. Flue Gas Inlet													
b. Flue Gas Outlet													
9. Emission Control Sections:													
<u>Description</u>													
a.													
(1) Inlet													
(2) Outlet													
b.													
(1) Inlet													
(2) Outlet													
c.													
(1) Inlet													
(2) Outlet													
10. ID Fan:													
(1) Inlet													
(2) Outlet													
11. Stack Outlet													

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:
