



BUDGET REQUEST FOR QUOTE - SOLID FUEL FIRED BOILER SYSTEM

This questionnaire covers the basic useful information to provide an effective proposal.

Customer: _____ Location: _____
 Contact: _____ Phone: _____ Fax: _____
 Ultimate User: _____ Location: _____

General

1. Where will purchasing decisions be made? _____
2. Who will make decision to purchase? (Give names) _____
3. When will the decision to purchase be made? _____
4. When is the expected delivery date? _____
5. Whose equipment is in plant? _____
6. Strong and weak points of existing equipment? _____
7. Plants evaluation of existing equipment? _____
8. Other Remarks? _____
9. Has this project been funded? _____
10. Please give details as to rail siding, indoor or outdoor storage, hauling distance, overhead obstruction, max. ground loading for transport vehicle, etc. _____

System Operating Conditions Per Unit

Number of Units: _____
 Capacity (Maximum Continuous Rating)(lbs/hr) _____
 Operating Pressure(PSIG) _____ Future: _____
 Steam Temperature (Deg F) _____ Future: _____
 Superheater Turndown (i.e. 100 down to 80%) _____
 Feedwater Temperature(Deg F) _____ (Standard Assumption is 230 Deg F)
 Blowdown (%) _____ (Standard Assumption is 1%)
 Steam Purity (PPM) _____ (Standard Assumption is 1/2 of 1%moisture)
 Elevation (Ft. ASL) _____ (Standard Assumption is 500'ASL)
 Location: Indoor Outdoor
 Space Limitations: Yes No If Yes, Obtain: _____
 Ambient Air Temperature: (Deg F) _____ (Standard Assumption is 80 Deg F)
 Relative Humidity (%) _____ (Standard Assumption is 60%)
 Efficiency Requirement (% HHV) _____ (If Required)
 Min. Flue Gas Temp. to APC (deg F) _____ (If Any Is Required)

Emission Guarantees

Fuel Type	(state name / type of fuel)				
NOx	(lb/MMBtu or PPM @ 3 or 7 % O ₂)				
CO	(lb/MMBtu or PPM @ 3 or 7 % O ₂)				
SO ₂	(lb/MMBtu or PPM @ 3 or 7 % O ₂)				
UHC	(lb/MMBtu or PPM @ 3 or 7 % O ₂)				
Particulates	(lb/MMBtu or PPM @ 3 or 7 % O ₂)				
VOC	(lb/MMBtu or PPM @ 3 or 7 % O ₂)				



Operating Mode

- Base loaded at MCR
- Stand-by
- Cycling

Describe: _____

Scope of Supply

- | | | | |
|---|--|--|------------------------------------|
| <input type="checkbox"/> Forced Draft Fan | <input type="checkbox"/> Over Fire Air Fan | <input type="checkbox"/> Induced Draft Fan | <input type="checkbox"/> Other Fan |
| Silencer (yes / no) _____ | _____ | _____ | _____ |
| Motor (yes / no) _____ | _____ | _____ | _____ |
| RPM _____ | _____ | _____ | _____ |
| Phase _____ | _____ | _____ | _____ |
| Hz _____ | _____ | _____ | _____ |
| Volts _____ | _____ | _____ | _____ |
| SF _____ | _____ | _____ | _____ |
| Motor Starter _____ | _____ | _____ | _____ |

- | | |
|--|---|
| <input type="checkbox"/> Burner
_____ Burner Management System
_____ Fuel Pipe Rack
_____ Fuel Oil Pump Set | <input type="checkbox"/> Ducts
_____ Air
_____ Flue Gas
_____ Flue Gas Recirculation |
| <input type="checkbox"/> Economizer with Support Structures | <input type="checkbox"/> Flue Gas Outlet and Air Dampers:
Drive Unit: Yes / No\ |
| <input type="checkbox"/> Tubular Air Heater with Support Structures | <input type="checkbox"/> Air Pollution Control Equipment |
| <input type="checkbox"/> Steam and Water Trim Valves | <input type="checkbox"/> Stack: Height from Grade _____ Ft. |
| <input type="checkbox"/> Sootblowers
_____ Pipe, Valves, and Fittings
_____ Motorized
_____ Control Panel | <input type="checkbox"/> Combustion Controls |
| <input type="checkbox"/> Silencers
_____ Vents
_____ Safety Valves | <input type="checkbox"/> Instrumentation |
| <input type="checkbox"/> Platforms and Ladders | <input type="checkbox"/> Hot Stand-By Coil:
Supply Steam _____ PSIG @ _____ F |
| <input type="checkbox"/> Process Water Heater
Flow (pph) _____ at _____ F in and _____ F out | <input type="checkbox"/> Feedwater 3 Valve By-Pass |
| | <input type="checkbox"/> Feedwater Regulator |
| | <input type="checkbox"/> Feedwater Heater
Flow (pph) _____ at _____ F in and _____ F out |

Fuel Type

- | | | | |
|---|--|--|-------------------------------------|
| <input type="checkbox"/> Anthracite | <input type="checkbox"/> Bituminous | <input type="checkbox"/> Sub-Bituminous | <input type="checkbox"/> Lignite |
| <input type="checkbox"/> Peat | <input type="checkbox"/> Wood (Bark) | <input type="checkbox"/> Wood (Chip) | <input type="checkbox"/> Wood (Mix) |
| <input type="checkbox"/> Wood (Processed) | <input type="checkbox"/> Wood (Treated) | <input type="checkbox"/> Wood (Demolition) | |
| <input type="checkbox"/> Bagasse | <input type="checkbox"/> Biofuel (Crops) | <input type="checkbox"/> Biofuel (Shell Or Husk) | |
| <input type="checkbox"/> Tires | <input type="checkbox"/> Waste (Rdf-Msw) | <input type="checkbox"/> Sludge | <input type="checkbox"/> Other |
- Firing Method:** Spreader Stoker Suspension Burner Other Mass-Fed Stoker Fluidized Bed



Imported Heat Sources:

State any imported heat sources like waste heat, dryer exhaust, or flue gas characteristics:

Stream Name: _____ at _____ pph, _____ in.w.c _____ deg F

Stream Analysis: _____ N2 _____ O2 _____ CO2 _____ H2O _____ AR at (% by wgh / vol)

Does the stream exist at start up? yes / no, Explain _____

Is the stream continuous or intermittent? _____

Fuel Specific Questions

1. IS THE FUEL TO BE FIRED IN COMBINATION WITH OTHER FUELS?
2. IS THE FUEL AFFECTED BY SEASONAL CHANGES?
3. IS STORAGE IN THE OPEN OR PROTECTED?
4. HOW LONG IS THE FUEL STORED BEFORE IT IS FIRED?
5. IS THE FUEL BLENDED OR MIXED FOR UNIFORM SIZE?
6. DOES THE FUEL CONTAIN ANY ADDED CHEMICALS?
7. IS THE FUEL CURRENTLY BEING FIRED AT THE PROPOSED SITE?
8. DOES THE FUEL UNDER GO ANY SPECIAL PROCESSES TO ALTER ITS CHARACTERISTICS?



COMPLETE THE FOLLOWING PAGE FOR FUEL AND ASH CHEMISTRY AND FUEL SIZING.
ATTACH A SEPARATE PAGE FOR EACH INDIVIDUAL FUEL.

FUEL NAME: _____

PROXIMATE FUEL ANALYSIS ANALYSIS

ULTIMATE ASH ANALYSIS (Required) ULTIMATE ASH

MOISTURE (AS FIRED)	%
ASH	%
VOLATILE	%
FIXED CARBON	%
TOTAL	%

MOISTURE (AS FIRED)	%
ASH	%
CARBON	%
HYDROGEN	%
NITROGEN	%
SULFUR	%
OXYGEN	%
CHLORINE	%
TOTAL	%
BTU PER POUND (HHV)	
BTU PER POUND (LHV)	

SILICA	%
ALUMINA	%
TITANIA	%
FERRIC OXIDE	%
CALCIUM OXIDE	%
MAGNESIUM OXIDE	%
POTASSIUM OXIDE	%
SODIUM OXIDE	%
SULFUR TRIOXIDE	%
PHOS. PENTOXIDE	%
UNDETERMINED	%
TOTAL	%

Ash Deformation Temperatures

Reducing Atmos.

Oxidizing Atmos.

INITIAL DEFORMATION
SOFTENING
HEMISPHERIC
FLUID

_____ F
_____ F
_____ F
_____ F

_____ F
_____ F
_____ F
_____ F

HARDGROVE GRINDABILITY INDEX (COAL) _____ FREE SWELLING INDEX (COAL)



Fuel Sizing Information

FUEL SIZE	CUMULATIVE % BELOW
LARGEST SIZE	
4-INCH	
3-INCH	
2-INCH	
1-INCH	
1/2-INCH	
1/4-INCH	
1/8-INCH	

FUEL SIZE	CUMULATIVE % BELOW
8 U.S. MESH	
16	
30	
60	
80	
100	
200	
400	