TODD Combustion

Customer: _____
Customer Contact: _____
Contact Phone #: _____
End User: _____
Location [city & state]: _____
Sales Rep.: _____
Architect Engineer: _____

PRELIMINARY APPLICATION/ENGINEERING DATA

Boiler Data

No. of Boilers:_____Make & Model_____No. of Burners per Unit:_____

Furnace Dimensions L x W x H: L_____x W_____ x H_____ Furnace Pressure _____w.c.

Wall construction: _____(tangent, membrane, tube & tile, etc)

Refractory locations: _____% floor _____% walls _____% roof

Design Steam Flow @ MCR:_____lb/hr. Steam Pressure____psig Feedwater Temp._____ Steam Temp ____ °F

Boiler Drum Location (Facing Front):_____Tube Spacing Wall Type:_____

Plant Elevation _____ Ft. Above Sea Level Type of Installation: _____Indoor / Outdoor

Combustion Air Temp. _____ Flue Gas Temp. _____°F Flue Gas Oxygen Content _____%

Boiler Efficiency:_____On Oil _____On Gas Economizer _____Yes _____No

Superheater _____Yes _____No Existing FGR _____Yes _____No Type _____ Flow _____ %

Burner Equipment

Windbox w/ Burner Combination :_____Burner Only:_____ Heat Input Per Burner _____mm btu/hr

Comb. Air fan: Windbox Mounted _____ Remote _____ Reuse Existing _____

Existing Fan Static Pressure: _____w.c. Existing Fan Capacity: _____cfm

Excess Air @ 100% MCR _____ Performance Turn Down Oil _____ Gas _____

Fuel Gas Type ____ Higher Heating Valve _____BTU/SCF Specific Gravity _____ Supply Temp._____%

MCR Gas Pres. @ Inlet Valve Train _____ @ Burner _____ Max. Avail. Pressure _____ psig

Gas Train: Shipped Loose ____ Pre-Assembled ____ Gas Flow Control Valve: By Others ____ By Todd ____

Gas Pressure Regulating Valve: By Others _____ By Todd _____ Existing _____ Gas Supply Temp. ____ °F.

Fuel Oil Type _____Fuel composition : Nitrogen _____%wt. Sulfur _____%wt Ash _____%wt

MCR Fuel Oil Pres. @ Inlet Valve Train _____ @ Burner _____ Fuel Oil Temp._____Visc._____

Oil Train: Shipped Loose ____ Pre-Assembled ____ Oil Flow Control Valve: By Others ____ By Todd ____

Oil Pressure Regulating Valve: By Others _____ By Todd _____ Existing _____

Type Of Atomization _____Steam _____Air _____Mechanical Air/Steam Pres Avail _____psig

Pilot Type _____Interupted_____Continuous Gas / Oil Pilot _____

Emissions: Predicted _____ Guaranteed _____

Fuel Oil NO_x _____ CO _____ Particulate _____ SOx _____ Opacity _____ Other _____

Gas NOx _____ CO _____ Particulate _____ SOx _____ Opacity _____ Other _____

Type of Operation : Recycling _____ Non-recycling _____ BMS by others: _____

BMS Control : On Windbox _____ Free Standing _____ Panel Insert _____ Micro/PLC? _____

Control Voltage _____Volt / Phase Motor Voltage _____Volt / Phase

Combustion Control: By Others _____ By Todd _____ Electric _____ Pneumatic _____ SPP/Metered _____

Insurance / Codes: FM _____ IRI _____ NFPA _____ UL _____ Other _____ Approval Required _____

In addition, please attach drawings or sketches showing the following information when applicable:

a) Windbox dimensions w/ burner location.
b) Windbox combustion air inlet location and dimensions.
c) FD fan location and combustion air duct arrangement (if applicable).
d) Burner centerline to furnace floor, sidewalls, roof.
e) Burner spacing (multiple burner applications).
f) Existing tube nest arrangement.
g) Existing burner throat opening and depth.
h) Boiler front wall depth and windbox mounting plate thickness.
i) Existing emission test data.
j) Existing fan curves / data (FD, ID, FGR if applicable).
k) Fuel data (copy of detailed component analysis of each fuel.
l) Boiler performance sheet.

Cool*fuel* Data Requirement – attach drawing if available

Burner Manufacturer & type: _____

# of burner rows: _____ # of burner columns: _____

Vertical pitch: _____ft Horizontal pitch: ___ft Bottom row CL to floor: ____ft

Existing pressure drop: _____in W.C. Existing turndown: _____: 1

Flue gas pressure @ takeoff: ____ in W.C. Air heater type: _____ (rotary, tube, etc)

Burner gas inlet size: _____in ID

Existing gas pressure @ burner for MCR: _____psig

Gas ring size: _____in ID or Qty and size of Pokers: _____ @ _____in ID

Emissions Data

Existing NOx emissions @ MCR:_____ppm Existing CO emissions @ MCR:_____ppm

Miscellaneous Questions

Will any gas train components need to be changed for higher fuel supply pressure? (if so list them)_____

Can the existing FD and ID fans handle the added pressure drop? (attach fan curves if available) _____

How is the existing superheat temperature controlled? (sprays, dampers, etc.) _____

Is there sufficient capacity in this system to handle increased temperature?_____

Can we use steam injection for NOx reduction?_____Plant steam cost:_____ $/1000 lb

Is continuous blowdown steam available? _____If so, how much: _____%

Estimated total length of flue gas duct from takeoff point to burner front:_____feet_____

# of 90 degree elbows:_____# of 45 degree elbows:_____

Re-Use of Any Existing Equipment / Comments (describe below):