

# INVITATION FOR BIDSOFFICE OF PROCUREMENT & CONTRACTS

## INSTRUCTIONS FOR BIDDERS

* 1. Sealed bids will be received in the Office of Procurement & Contracts, Mississippi State University, for the purchase of the items listed herein.
	2. All bids must be received in the Office of Procurement & Contracts on or before the bid opening time and date listed herein. Delivery of bids must be during normal working hours, 8:00 a.m. to 5:00 p.m. CST, except on weekends and holidays when no delivery is possible.
	3. Bidders shall submit their bids either electronically or in a sealed envelope. To submit electronically, follow the instructions below. Bids CANNOT be emailed.
		1. Sealed bids should include the bid number on the face of the envelope as well as the bidders’ name and address. Bids should be sent to: 245 Barr Avenue, 610 McArthur Hall, Mississippi State, MS 39762.
		2. At this time we only accept non-ITS bids electronically. For electronic submission of bids, go to:portal.magic.ms.gov.
		and use the RFX number on the next page as your reference number.
	4. All questions regarding this bid should be directed to the Office of Procurement & Contracts at 662-325-2550.

## TERMS AND CONDITIONS

* 1. All bids should be bid “FOB Destination”
	2. Bidders must comply with all rules, regulations, and statutes relating to purchasing in the State of Mississippi, in addition to the requirements on this form. General Bid Terms and Conditions can be found here: <https://www.procurement.msstate.edu/procurement/bids/Bid_General_Terms_May_2019_V2.pdf>
	3. Any contract resulting from this Invitation for Bid shall be in substantial compliance with Mississippi State University’s Standard Contract Addendum: <https://www.procurement.msstate.edu/contracts/standardaddendum.pdf>

### Bid Number/RFX Number: ****24-10/RFX# 3160006342****Opening Date: ****January 11, 2024 at 2:00 p.m.****Description: ****Watertube Boiler****

#### Vendor Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Vendor Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Telephone Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Days the Offer is Firm: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Authorized Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| **Item** | **Quantity** | **Description** | **Unit Price** | **Total Price** |
| --- | --- | --- | --- | --- |
| 1 | 1 | Watertube Boiler Model: M5-700-4500-150ST (460/3/60)-STD/CFG |  |  |

* Boiler Capacity (Input) at 700 ft: 4500MBTU (Output: 3600MBTU)
* Application Environment: Indoor - Typical Boiler Room
* Project NEMA Rating: NEMA 12
* Boiler Tube Wall Thickness: 0.095in
* Fuel: Natural Gas
* Design Pressure: 150lb ST
* Operating Pressure: 100 psig
* Safety Valve Setting: 125lb
* Safety Valve Relieving Requirement: Full Capacity
* Safety Valve Relieving Capacity: 3711 lbs/hr
* Voltage: 460/3/60
* Customer Site Voltage: 460 V
* Electrical Panel Configuration: Control Panel (Burner Mount)
* Insurance Requirement: CSD-1
* Insurance Requirement: FM
* Packaged Boiler UL Label: UL

Integral Burner Information:

* Burner Modulation: Full Modulation
* Blower Motor: Blower Motor: 3 HP TEFC (460/3/60)
* Blower Motor Starter: IEC
* Altitude: 700 ft ASL
* Burner Input Capacity: 4500 MBTU
* Gas (Natural Gas) Emissions Level: Uncontrolled
* Gas (NG) CO Emissions Level: 200 ppm
* Minimum Gas Flow: 1500 SCFH
* Maximum Gas Flow: 4500 SCFH
* Burner Gas Turndown: 3 : 1
* Burner Modulation: Full Modulation
* Burner Ignition Type: Spark Ignited Gas
* Economizer included Separately with Boiler Package: No

Kunkle Safety Valve Arrangement (125lb HPS):

* Safety Valve #1: Inlet Size - 1 1/2in (Full Capacity)

Boiler Pressure Vessel Package Steam Pressure Vessel Connections:

* Stack Connection: 16in Sleeve
* Steam Nozzle Connection: 3in Flanged 300lb. R.F.
* Feedwater Connection: 1in NPT (Back)
* Blowdown Connection: 1.25in NPT (Front)
* Surface Blowoff Connection: 0.75in NPT

Steam Valve Arrangement:

* Steam Valve Arrangement: Arrangement 4
* Steam Valves: Two Stop Valves
* Steam Piping Options: Steam Spool Piece 1: 3in x 3in x 30in
* Steam Spool Elbow: 3in x 3in
* Steam Stop Valves: 3in 300FL (SL)
	+ Steam Spool Piece 2: 3in x 3in x 12in
	+ Free Blow Drain Valve Mounted on Spool Between Steam Stop Valves: 0.5 NPT

Boiler Valves and Piping Arrangement :

* 1 Quick / 1 Slow 1.25in Blowdown Valve Arrangement - Factory Piped Schedule 80 (Location: Front):
	+ Slow Blowdown Valve: NPT Class 250 Iron (QTY: 1 Per Boiler)
	+ Quick Blowdown Valve: NPT Class 250 Iron (QTY: 1 Per Boiler
* Feedwater Valve Arrangement (Factory Assembled):
	+ Feedwater Globe Valve and Check Valve: 1in NPT Class 200
* Surface Blow Off Valve Arrangement (Factory Piped):
	+ Surface Blowoff Manual Stop Valve: 0.75in
	+ NPT Surface Blowoff Metering Valve: 0.5in
	+ NPT Surface Blowoff Collector Pipe

Level Control Package with Sch 80 Carbon Steel Piping

* Main Low Water Cutoff: Main Low Water Cutoff: McD-M 157 Automatic Reset On/Off Float
* Auxiliary Low Water Cutoff: Auxiliary Low Water Cutoff (ALWCO): MCDM1575 Manual Reset On/Off External Probe

Miscellaneous Trim Options Package:

* 3in Dial Stack Thermometer
* 4.5in Dial 0-300 psig Pressure Gauge #11 1

Boiler Controls Package:

* Standard Non-Parallel Positioning Controls:
	+ Modulating Control: Steam (Pressure)
	+ Operating Pressure Limit Control
	+ High Limit Control: Steam
	+ Pressure Control Piping and Elbow Plugs: 0.75in Sch 80 Carbon Steel
* Modulating Motor: Honeywell 0-135 ohm
* CB780EUV Combustion Flame Safeguard Package:
* Miscellaneous Control Options:
* Combustion Safeguard Control Mounted Display Module Front Control Panel Door (Nema 4 with External Reset)

Miscellaneous Control Options:

* + Low Fire Hold: Minimum Temperature (Steam)
	+ Remote Emergency Shutoff: Terminals Only
	+ Steam Day Night Control

Fuel Train Package for 700 Series:

Primary Gas Train for Natural Gas:

* + Nema Rating: NEMA 1
	+ Piping Material: Carbon Steel
	+ Primary Gas Train Mounting Location: Left Side
	+ Customer Site Gas Pressure: 140 in. w.c. (5.05 psig)
	+ Components from Customer Connection to Burner:
		- Manual Valve #1: 2in Ball
		- GPR Configuration: 210 2 (Standard Trim)
		- Safety Shutoff Valves: Honeywell Dual\_Motorized\_1\_POC SSOV #2: 2in
		- Manual Valve #2: 2in Ball
		- Butterfly Valve: 2in
		- Customer Connection: 2in

Primary Gas Train Accessories:

* High Gas Pressure Switch
* Low Gas Pressure Switch
* Vent Valve
* Plugged Leakage Test Cock: 0.25in Brass Ball
* 2.5in Steel Pressure Gauges with Bronze Shutoff Cocks at the Following Locations: Manifold Inlet/Regulator Outlet

Natural Gas Pilot Gas Train Accessories: Natural Gas Customer Inlet Gas Pressure (in. w.c.): 140 in. w.c.

* Natural Gas
* Gas Pressure Regulator: Maxitrol 325-3
* Manual Shutoff Cock: Bronze
* Solenoid Valve: Aluminum Body

Boiler Electrical Package:

* Main Power Distribution Type - Rotary UnFused Disconnect: Amps:30 Blower Motor Starter: IEC
* Individual Power Distribution Type - Fuse Package Mounted in Control/Entrance Panel:
	+ CCT Protection: 1.6 Amp Fuse (Qty:3)
	+ Blower Motor Protection: 9 Amp Fuse (Qty:3)

Boiler Panel Configuration And Panel Accessories:

* Burner Mounted Control / Burner Panel Enclosure Configuration NEMA 12 with Panel Accessories:
	+ Electronic Sounder Audible Alarm
	+ Alarm Silence Switch
	+ Common All Function Alarm
	+ Single Point Connection: - 460/3/60
	+ Circuit Wire: 16 AWG
	+ IEC Entrance Panel
	+ 22mm LED Light Package with Standard Labels Mounted on Control/Burner Panel:
		- Green Fuel Valve Light
		- Red Flame Failure Light
		- Red Low Water Light
		- White Load Demand Light

Submittal Package for M5:

* Dimensional Diagram
* Wiring Diagram
* Test Fire Report
* ASME Data Report

Start-up Services must also be included