

	<p>BHOPAL SAHAKARI DUGDH SANGH MARYADIT HABIBGANJ, BHOPAL 462024 AN ISO 9001 : 2015 Certified Organization E-mail: bsdsim@gmail.com Phone 0755-2478250 Fax : 0755-2450896</p>
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Ref No: 40

Dated: 5/12/2019

NOTICE INVITING E-TENDER (2nd call)

Online Tenders are invited for supply, installation & commissioning of **Boiler Capacity 5 KLPH** at Bhopal Sahakari Dugdh Sangh from reputed manufacturer/dealers. The tender documents containing the terms and conditions can be purchased online & downloaded through following website <http://www.mptenders.gov.in> from 06.12.2019 onwards. The tender will be opened in the office of the undersigned as mentioned in tender time schedule(key date). The detailed Tender Form can be seen (only for reference) at our H.O website: www.mpcdf.nic.in

Name of item	EMD (Rs)	Tender Fee (Rs)	Bid submission due date & time	Technical Bid opening Date & time
Design, Engineering, manufacture ,work testing , supply, transportation to site, off-loading, including all site handling, construction of required foundation , installation, commissioning, site acceptance test, training and hand over of Steam Generator (Boiler) package as per Technical Specification covered in Part-I and Terms and Conditions covered in Part-II of this tender document for Bhopal Sahakari Dugdh Sangh Bhopal (BSDS Bhopal)	1,50,000/-	1000/-	19.12.2019 3.00 pm	20.12.2019 3.00 pm

The firms with at least three years relevant experience in above said work are eligible to Participate. The proposal duly completed in all respect should be submitted website mptenders.gov.in on or before 3 pm on 19.12.2019 the tender document with eligibility criteria and other details may be downloaded from www.mpcdf.nic.in. The BSDS reserves the right to accept or reject any offer or all the offers without assigning any reasons thereto.

CHIEF EXECUTIVE OFFICER

BHOPAL SAHAKARI DUGDH SANGH MARYADIT

HABIBGANJ, BHOPAL 462024

AN ISO 9001: 2000 Certified Organization

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TENDER DOCUMENT

Schedule I : Technical Specification for Boiler
Schedule II : Terms & Conditions (General & Financial)
Schedule III : Form A & B

(To be downloaded filled manually & scanned copy uploaded online.)

Schedule IV : Price Schedule to be filled on line

Tender Cost : Rs.1000/- (One thousand only)

Place of opening of Tender : Meeting Hall of The Bhopal Sahakari Dugdha Sangh
Maryadit, Bhopal.

Address for Communication : The CEO, Bhopal Sahakari
Dugdha Sangh Maryadit,
Bhopal 462024

CHIEF EXECUTIVE OFFICER

TECHNICAL SPECIFICATION FOR BOILER PACKAGE

SCHEDULE - I

TECHNICAL SPECIFICATION FOR BOILER

1. Introduction

- This specification covers the minimum requirements governing the design, engineering, manufacture, Works ,testing, packaging, transportation to site, off-loading (including all site handling), design of foundation and support structure, installation, commissioning, site acceptance testing, hand over and guarantee of a boiler package and associated accessories at Bhopal Sahakari Dugdh Sangh Bhopal (BSDS Bhopal).
- The supplier shall have designed, manufactured, tested and supplied similar packages. Contractor shall provide evidence of satisfactory operation of similar units.
- The scope of equipment and services required by the Boiler's vendor shall be as described in subsequent clauses of the specification. Any additional items, not specifically mentioned, but required for the safe and efficient operation of the boiler, or to be in compliance with Local or National legislation, are deemed to be inclusive, should be lie within the defined termination points of the boiler vendor's contract.
- The boiler shall be of a fully automatic, packaged type of design, suitable for unattended operation. This does not include daily/weekly/monthly maintenance, operation, or water treatment inspection and/or routine service attention.
- Boiler Rating & Operation
Boiler data sheet shall state the required boiler capacity for the design steam flow at the boiler stop valve for given steam pressure and temperature conditions. The Boiler is expected to be operated continuously for approximately 18-20 per day hours at the rated conditions. **An IBR boiler is required.**

2. Scope

- It is the boiler vendor's responsibility to include any item/system required to make the package complete and functional as per required process parameters and guarantee run. The scope of supply of the boiler package shall include, but not be limited to the following: Complete thermal and mechanical design of the equipment.

The scope of the boiler package is as follows.

- i. Boiler with controls with electronic compound regulation & related controls.
 - ii. Basic boiler comprising support frame completed with all internals, Insulation, cladding and painting.
 - iii. Fuel system, fuel pumps, burner with electronic compound regulation, burner controls including O2 Trim & VFD, valves, and filter and on package fuel pipe work complete with spill/return line terminating with a non-return valve.
 - iv. Boiler efficiency monitoring system complete with steam flow meter, oil flow /Gas flow meter, oxygen analyser, TDS based automatic blow down control system, temperature transmitter's controller.
 - v. Water pre heater with dampers, supports and instrumentation to recover heat from the flue gases.
 - vi. Boiler feed water pumps.
 - vii. All piping and pipe supports within the battery limits.
 - viii. Support structure with lifting lugs - necessary arrangements for handling, supports, alignment, ladders and platforms etc.
- Foundation drawing and details for the installation of the equipment (**The vendor shall submit these details well in advance to facilitate construction of the foundation before the installation of the equipment at site**)
- ix. Earthing provision.
 - x. Boiler control panel, burner management system, & instrumentation complete with cabling /tubing from the device to the on-package control panel. This electrical panel shall contain the electric motor starters for fans and feed pumps motors.

- xi. All the critical parameter sensor signals from the boiler package shall have electrical output to ensure local as well as remote indication through PLC in Main Control Room of the Facility.
- xii. Accessories and instrumentation within the package limits and other relevant details
- xiii. Inspection, Testing and reports as given in the specification
- xiv. Safe transport and delivery at site
- xv. Installation and commissioning of the entire package at site
- xvi. Spare parts necessary for start-up, commissioning along with priced list of spares for two year operation**
- xvii. Any special tools required for maintenance
- xviii. Documentation requested in this specification
- xix. Guarantee and Servicing for the system as specified below.
- xx. Clearance certificate from Boiler inspector and any other legal requirements.

Name Plate:

Heat exchanger shall be provided with a type 316 stainless steel nameplate securely attached and located on the equipment such that it is clearly visible after installation. Nameplate shall be riveted to a bracket welded onto the exchanger.

The following information shall be added to the name plate: Equipment Tag No. , Manufacturer, Manufacturer's Serial No., Date of Manufacture, Date Tested, Operating Pressure (kg/cm²), Test Pressure (kg/cm²), Max. Design Flow (kg/hr), Erected Mass - (kg).

3.0 EXTENT OF SUPPLY

3.1 Boiler

Compact IBR Gas & Furnace fired (Duel fire) once through, forced circulation plug & play boiler (**Capacity 5000kg/hr of saturated steam with pressure rating of 17.5kg/cm²-g and steam quality above 90%**) with pressure part assembly with following safety features:

- Flame sensor for detecting flame.
- Temperature indicating controller for measuring steam temperature and tripping.
- Blow down valve for ensuring closure of blow down valve.
- Pressure switch for boiler on / off.
- Pressure switch for ensuring tripping of unit due to no water.
- Necessary relays for motor overloading.
- Mechanical safety valve for avoiding over pressure.

3.2 Water piping system

3.2.1 Feed Water tank

Feed water quality available at the locations is provided to the boiler vendor. The Boiler manufacturer shall design the system as per feed water quality. MS Tank of approximately 10000 liters capacity with fittings and accessories is desired. The tank shall be provided with necessary nozzles and level gauge. Tank shall be placed on a 4 m high MS structure from ground level.

3.2.3 Valves to be included are as follows (1No) (as per requirement)

Isolation valve at inlet of Raw water pump (Ball), Strainer at inlet of Raw water pump (Y type), Isolation valve at inlet of softener (Globe), Pressure gauge at inlet of softener (Bourdon), Isolation valve for pressure gauge (Needle), Isolation valve at outlet of doser (Ball), Isolation valve at the inlet of the soft water tank (Ball), Float valve at the inlet of the soft water tank (Ball), Isolation valve at the outlet of the soft water tank (Ball), Isolation valve for drain of the soft water tank (Ball), Strainer at inlet of optimizer on boilers (Y type), Valve for sampling on supply header (Needle), Drain valve at inlet of Optimizers (Ball).

3.3.2 Fuel Oil Piping

- Supply and installation of fuel pipelines within boiler house with flanges, bends, valves, sockets, nuts, bolts, gaskets etc.

- Fuel Oil line from HSD service tank to boiler inlet. Size 15 NB. Approx. length 6m.
- Burner and fuel pump spill- over (return) line from boiler to tank. Size 15 NB approx. Lines shall be complete with check valves, flexible hose and nipples for connections up to the fuel oil filters of each boiler. Total approx. length 8m (this length may be confirmed from the attached layout drawing).
- Drain, over flow, air vent lines for fuel oil service tank.
- Fuel supply pressure measurement by pressure gauge along with switching contact.

3.4 Steam System

3.4.1 Steam Piping

- Steam piping from the outlet of boiler to the inlet of Steam distribution header.

3.5 Drain and Safety Valve Exhaust Lines

- From Auxiliary valve outlet on boiler to drain pit.
- From Blow down valve on boiler to blow down pit.
- From Safety valve exhaust on boiler to atmosphere outside boiler house
- Vent piping from Economizers to a maximum height of 0.5m above water tank top level in sections of 25 / 40 /80 NB.
- Drain piping for safety valves exhaust piping to common drain header.
- Common drain header to drain pit.

The blow-down pit is located at a distance of 2500mm from boiler house (Maximum) and safety valve exhaust to maximum distance of 2500mm from boiler house. Earthing pit is located approximately 3000mm from Boiler house.

3.6 Flue Gas System

3.8.1 Flue Gas Ducting from boiler outlet to Chimney 4.17 meters (Bottom diameter) 6 meters (foundation diameter) flue gas ducting fabricated from ERW pipe (with thickness 4mm) from boiler outlet to the chimney. Ducts shall be complete with reducer, manually operated damper and flanges etc. (wherever required) and shall be applied with primer and suitable paint from outside. Approximate length is 32 meters.

Water Pre-heater with dampers, supports and instrumentation to recover heat from the flue gases. Water preheater shall be designed for inlet flue gas temperature of 240 Deg C and outlet temperature of 150 Deg C.

3.7 Instrumentation and Control

For Boiler operation, a local control panel,(Boiler Mounted) Power cabling from local panels to Individual drives, Instrument cabling from local panel to individual drives, Cable trays, lugs, ties, etc. as required shall be considered.

The parameters given in following table shall have alarms and trips as a minimum requirement for the safe operation of boiler. The necessary signal initiating devices, relays, flashers and other accessories for the operation of equipment shall be provided for following conditions.

The boiler package shall have sufficient number of electrical signal outputs from sensors for information exchange with the central plant control system located in main control room.

Description	Instruments For	Alarm	Trip	Current output required for remote indication
Feed water systems:				
Feed Water Level	High / Low/ V. Low	Yes / Yes / Yes	-/-/Yes	Yes
Blow-Down Valve Open		Yes	Yes	Yes
Steam :				
Steam Temperature	High / Low	Yes / Yes	Yes/-	Yes
Steam Pressure	High / Low	Yes / Yes	Yes/-	Yes
Exhaust GAS :				
Exhaust Gas Temperature	High / Low	Yes / Yes	Yes/-	Yes

Fuel Supply Pressure to boiler	High / Low	Yes / Yes	Yes/-	Yes
Stack Temperature	High	Yes		Yes
Burner:				
Individual Burner Failure		Yes	Yes	Yes
Steam totalizer	Amount of steam produced			

The vendor shall provide a local control panel for the necessary Boiler control, alarm, trip, etc. for the above mentioned parameters. For remote indication of above parameters in the main control room of the facility, a 4-20 mA current output and potential free contact output for ON/OFF indication are required to be provided as per the table above. The vendor shall also provide current output/relay contacts for switching ON/OFF/Tripping the Boiler from the main control room. This will enable indication of various boiler parameters in control room and operation of boiler from Local control panel as well as from main control room.

The tentative list of various boiler parameters for indication / control which are required for communication between the boiler package and the main control room is given below.

a) Boiler Local control panel to Main Control Room:

- Boiler ON/OFF status
- Fuel supply status (Contact output from pressure indicating switch)
- Temperature and pressure of steam at steam generator outlet
- Boiler failure or trip indication
- Blow-Down Valve Open indication
- Individual Burner Failure indication
- Stack Temperature indication
- Exhaust Gas Temperature indication

b) Main Control Room to boiler local control panel:

- Boiler ON/OFF command
- Emergency stop (Boiler trip contact)
- Steam totalizer

The boiler control scheme shall also include the following:

Boiler should switch ON or OFF in auto mode (for continuous operation of 4 hours) between 17.5kg/cm²(g) and 10.0kg/cm²(g).

The Vendor will be responsible for the provision of contact points on the boiler package as per the requirements mentioned in this section. Connection from the contact point to the main control room of the facility, including cabling etc. will be THE SCOPE of this tender.

Boiler Efficiency Monitoring System

Boiler Efficiency Monitoring System complete with Vortex Type Steam Flow Meter, Vortex type Fuel Flow Meter, Oxygen Analyser, TDS Based Automatic Blodwon Control System, Temperature Transmitters, Controller.

Offered system shall be in a position to be linked with the BMS of client or PC for data transfer and trending.

3.8 Structure

Common Steel structure for installation of feed water tank shall be provided. Total elevation of **common steel structure shall be 4000mm (vendor may suggest minimum required height)** from ground level. Feed water tank shall be accommodated at an elevation of 4000 mm. Fuel oil service tank shall be placed at 4000mm.

Structure shall be fabricated out of 150x75mm MS channel and angles (minimum size). Suitable monkey ladder and small platform (with railing) with paint shall be provided to facilitate limbing to the top of the tanks for inspection and cleaning purpose.

Piping & flue gas ducting supports as required shall be provided.

3.9 Insulation

Steam piping, ducting will be insulated with various thicknesses of LRB mineral mattress having a density 100 kg/m³ with chicken mesh on one side. The mineral mattress will be protected from outside with aluminum cladding of 24 gauge.

4.0 TERMINATION POINTS

- Feed water supply: Feed Water Tank Outlet.
- Fuel oil supply/Gas supply.
- Steam discharge: outlet of PRS.
- Electrical supply: terminals within the boiler's control panel
- Boiler exhaust gas discharge: outlet of Stack.
- Blow down discharge: at the bottom of boiler package
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5.0 MATERIAL OF CONSTRUCTION / MAKE OF COMPONENTS

- All materials of construction used in the manufacture of the boiler should conform to the requirements of the appropriate Sections of the relevant Indian Standards/IBR standards.
- ERW tubes shall be used for pressure parts in all cases, and where this is not available,. Copies of materials certificates and test certificates for all welded pressure parts must be included in the document file supplied with the boiler.
- Vendor to specify as per the relevant standards and material.

6.0 INSPECTION AND TESTING

- a) The works supplied under the contract shall be subject to inspection by purchaser or his authorized representative.
- b) Fourteen days' notice shall be given in writing of the readiness of boiler package for test or inspection. Every facility shall be provided by the boiler supplier and his Sub-Contractor(s) to enable the client to carry out the inspections and witness the tests.
- c) No equipment shall be packed, prepared for shipment, or dismantled for the purpose of packing for shipment, until it has been satisfactorily inspected and approved for shipment.
- d) As a minimum, following tests/inspection shall be carried out:-
 - Material test certificate review for pressure parts of boiler and major parts of all bought out components.
 - Visual inspection & dimensional check of all items in scope of supply.
 - Hydro testing of all pressure containing parts and water fill test of atmospheric tanks/vessels.
 - Radiography for the boiler components and the welded joints.
 - Review of NDT test reports for boilers.
 - Manufacturer's performance certificate review for items such as pumps, blowers, fans & burners.
 - Panels (Electrical and instrumentation) witness of sequence test, function test, high voltage test and identification of makes of components.
 - Type test certificate review for motors.
 - Noise and vibration level test.
 - Calibration of instruments and pop-up test of pressure safety valve.

7.0 PAINTING, PACKING, INSURANCE, TRANSPORT, DELIVERY

- Painting, protective coatings and the procedures used for preparation of surfaces shall comply with vendor's standard specifications.
- The contractor shall be responsible to see that there is no damage to the equipment during shipment and loading/unloading.
- Packing and Forwarding, safe transportation, insurance, delivery, loading/unloading (of the package at works/site) and any other relevant requirements for the installation and commissioning at site are included in the scope of the vendor.

8.0 INSTALLATION / ERECTION / COMMISSIONING

The Boiler and its associated equipment, systems shall be installed, erected and commissioned by the supplier/vendor at BSDS Bhopal. The general installation, erection and commissioning sequence of Boiler and its associated equipment, systems etc. are as follows;

- Shifting of Boiler and its auxiliaries to boiler house.
- Placement and alignment of boiler.
- Placement and alignment of local control panel inside boiler house
- Erection of structure for soft water service tank
- Erection of soft water tank on structure
- Fabrication & Erection of Boiler drain, safety, vent, exhaust, Steam piping
- Installation & erection of Valves
- Hydraulic testing of pipelines
- Insulation & aluminum cladding for flue gas ducting and steam piping
- Application of red oxide primer and suitable paint for structural items and tanks.
- Fabrication & erection of flue gas ducting
- All electric cabling, lighting etc
- Installation, Commissioning and operation of entire system accumulator.
- Completion of process for volumetric test.

The boiler supplier/vendor shall submit fully comprehensive schedules of pre- commissioning checks for each item of the boiler and equipment provided. After installation and commissioning, supplier/vendor shall extend all the necessary help in resolving various operation and maintenance problems faced by site. This includes visit to site by the manufacturer's engineer to resolve the problems as and when required.

9.0 DOCUMENTATION and TRAINING

9.1 Documents required with the offer

- The following information is minimum requirement:
 - Plan, Layout, and Installation (general arrangement) drawing of the package.
 - Foundation load / weight data
 - Feed water quality required
 - Data sheets
 - A price schedule and guarantees.
 - A recommended list of spare parts for two years operation with individual price.
 - An extent of supply and termination points list.
 - Utilities requirement of electricity, water, compressed air, fuel etc. for the boiler.
 - All relevant catalogues for the products on offer
- Any deviations from this specification shall be clearly given in writing at the tendering stage. Absence of such comment, assumes full compliance. Any subsequently discovered short-falls will be rectified at no extra cost to the Purchaser.
- The bidder shall provide full details of technical specifications for all the items offered, along with product information catalogues showing model, make, type, constructional details, materials etc. to facilitate speedy evaluation of the quotation. Without this information the purchaser reserves full right to reject the offer for evaluation.

9.2 Post Order Documents

- Foundation details. Foundation drawing and details for the installation of all the equipment shall be submitted by the vendor well in advance to facilitate construction of the foundation before the installation of the equipment at site.
- The schematic, actual design and fabrication drawings (GA drawings) of the equipment, wherever applicable shall be prepared and submitted for approval of the purchaser's representative before the commencement of actual fabrication
- Process and Instrument Diagram (PID).
- Control system specifications and control circuit drawings.
- Electrical Wiring Diagrams and Local Panel TB diagrams.
- An Installation and Erection manual.
- The supplier shall submit both soft (editable) and hard copies of these documents for approval before commencement of the work.

- Other submissions (e.g. materials and test certificates, electrical and burner details etc.) shall be submitted prior to inspection at shop.
- All relevant manufacturers' certificates in standard format and operation & maintenance manual should be forwarded along with the material.
- Operating and Maintenance manuals shall be provided in triplicate at least two weeks before the delivery of the boiler. These manuals shall contain operation and maintenance information on ALL items of equipment supplied with the boiler together with detailed drawings and spare part list sufficient to enable identification and ordering of spares.

9.3 Training

Vendor shall give training regarding operation and maintenance of the Boiler and associated equipment.

10.0 SPARE PARTS

- Necessary spare parts for operation and maintenance of Boiler shall be specified.
- The list of spare products along with the unit cost shall be provided.
- A recommended spare parts list for two year's operation along with individual cost shall be submitted.
- List shall include part number, part description, serial number and delivery lead time.
- All spare parts furnished by Contractor shall be wrapped and packaged.
- Spare parts shall be clearly marked "Spare Parts" and properly tagged and coded.
- "Spare Parts" shall be shipped along with the equipment.

11.0 QUOTATION

Quotation for the complete package shall include: basic cost of the equipment, packaging & freight, delivery and installation at site BSDS Bhopal, insurance, taxes (as applicable), etc. The vendor must provide a complete break-up of the various cost components as mentioned above.

12.0 DEVIATIONS / EXCLUSIONS

- Deviations (if any) from the specifications should be clearly specified.
- Any equipment / parts / system required to make the boiler package complete and safe and meet design parameters shall be supplied by the boiler supplier.
- Any exclusion needs to be specified separately. Vendor giving complete package (including installation, erection & commissioning of above mentioned items & equipment) shall be referred.
- Vendor can quote optional price if required for certain items and shall supply the same if order is placed for the same.

• 13.0 GUARANTEE

- The supplier shall submit a certificate for guarantee of the material/service against any defects for **18 months from the date of supply or 12 months from the date of commissioning.**
- Vendor shall have total responsibility for the design and performance of all the equipment furnished.
- Vendor shall warrant that the equipment furnished and the performance of the said equipment is in accordance with this specification and general codes.
- Vendor shall warrant and guarantee that all the materials and equipment incorporated in the package shall be new, and all work shall be of good quality.
- Vendor shall also be responsible for all system and detailed designing, the aspects of which may not have been covered in this specification as regards the workmanship, performance etc., of the equipment supplied.
- The boiler shall be guaranteed for satisfactory performance at all operating conditions as mentioned above. Performance test on boiler shall be carried out in compliance with BS 845 part 1: 1987. Field check on performance when carried out by Purchaser shall be made within agreed time of initial operation.
- Vendor should provide **service for the complete package for a period of 2 years from the date of commissioning free of cost. Service schedule for this has to be given well in advance.**

14.0 ELIGIBILITY FOR BIDDING

The bidding company or its authorized dealer should ensure that the following conditions are met

- i. Boiler manufacturer or their authorized dealer/Channel partner can only participate.
- ii. Preference will be given to boiler manufacturers having ISO 9001 14000 certification.
- iii. The boiler manufacturer should have minimum 10 years of experience in manufacturing, sales and service of this kind of boiler. The bidder should have at least 3 years of relevant experience for the purpose of this indent.

Terms & Conditions(General & Financial)

SCHEDULE- II

General terms and conditions:

1. The Bidder shall bear all costs associated with the preparation and submission of its bid, and in any case BSDS Bhopal will not be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.
2. It is in the bidder's interest to visit the site and understand the local conditions BSDS Bhopal shall not be held responsible for any cost implications because of local conditions or for bidder not visiting site.
3. The bid prepared by the bidder and all correspondence and documents relating to the bid exchanged by the Bidder and BSDS Bhopal shall be written in English language.
4. Bidder is advised to submit the technical bid in a sealed envelope and submit financial bid online only. Both the documents will be opened as per schedule.
5. The bid and all attached documents should be signed by the bidder as a token of acceptance.
6. BSDS Bhopal has to finalize its purchase within a limited time schedule. Therefore, it may not be feasible for BSDS Bhopal to seek clarifications in respect of incomplete offers. Prospective bidders are advised to ensure that their bids are complete in all respects and fulfill BSDS Bhopal terms, conditions and bid evaluation criteria of the tender. Bids not complying with BSDS Bhopal requirement may be rejected without seeking any clarification.
7. Bidder has to sign a **Non-Disclosure Agreement** with BSDS Bhopal. Any technical document, drawings in the form of soft or hard copy shall not be disclosed to anybody outside the working team. All the hard copies shall be destroyed immediately after the use.
8. The bidder should **submit a declaration** to the effect that neither the bidder themselves, nor any of its allied concerns, partners or associates or directors or proprietors involved in any capacity, are currently serving any banning orders issued BSDS Bhopal/MPCDF Bhopal debaring them from carrying on business dealings with BSDS Bhopal.
9. Bidders should quote prices in Indian rupee only. Prices quoted in any other currency shall not be considered.
10. The **Bid shall be valid for acceptance for the period of 90 Days** and shall not be withdrawn on or after the opening of bids till the expiration of the validity period or any extension agreed thereof.
11. **The earliest period by which the job can be executed in total should be clearly stated in the quotation and such period should be strictly adhered to in the event of a work order.**
12. Bids qualified by vague and indefinite expressions such as "Subject to availability" etc. will not be considered.
13. The bid along with all technical details, appendices and copies of documents should be submitted to BSDS Bhopal. The Technical bid shall contain all details required as per the specifications.
14. In case the bidder needs to clarify and/or understand the full scope of his work before submitting the quotation, he may do so by taking prior appointment or by writing email to **I/C (Engg.) BSDS Plant Bhopal (Email Id- engg.bsds@gmail.com)** The Client will respond by email to such requests and copies of the response (including an explanation of query but without identifying the source of enquiry) will be sent to all invited bidders who intend to submit the proposal, and also posted at Tenders link of MPCDF website (if found necessary).
15. The successful bidder shall be responsible for the correctness and accuracy of the drawings, documents and reports prepared by him. Approval of the drawings and documents by BSDS Bhopal/their representative shall not relieve him of his responsibility for correctness and accuracy of such drawings and documents. No compensation or extra payment shall be made by BSDS Bhopal for any correction or changes made in the execution work.
16. Bidders should ensure that they qualify for all the items of the assignment. The bidders shall have experience and expertise in the scope of work as detailed in this tender.
17. Bidder must have at least three similar jobs executed, and the name of the organization for which the works were carried out should be furnished with the Bid. Copy of Completion Certificate should be furnished.
18. The acceptance of bids will rest with CEO BSDS Bhopal who does not bind himself to accept the lowest bid and reserves to himself the authority to reject any or all the bids received without assignment of any reason. Also, CEO

BSDS Bhopal reserves to himself the right to accept the whole or any part of the bid and the bidder shall be bound to perform the same at the rate quoted.

Commercial terms & conditions:

1. The bids will be evaluated on the basis of technical suitability and financial quotation.
2. Technical bids should submit in a single sealed envelope along with all the relevant details and documents. The reference of our enquiry should be clearly written on the top of the envelope. The bid should be addressed to **Chief Executive Officer Bhopal Sahakari Dugdh Sangh Bhopal 462024** and should reach BSDS Bhopal on **or before the due date as mentioned in the cover page.**
3. Price bids should clearly mention the detailed price break-up of scope of work as given in Part-I of tender and taxes separately for supply and installation jobs. **If the tax value differs for different items, these shall be mentioned separately. Price Bid should be filled online only.**
4. Technical evaluation will be based on the criteria detailed in the General Terms and Conditions and the scope of work as given in Technical Specifications. If required, evaluation of the bidder's resources would be undertaken by the client by visiting the bidder's premises.
5. BSDS Bhopal is partially/fully exempted from payment of customs/excise duty, if applicable. As the above statutory provisions are frequently reviewed by the Govt., the bidders are advised to check the latest position in their own interest and BSDS Bhopal will not bear any responsibility for any incorrect assessment of the statutory levies by any bidder.
6. Government of India's guidelines on **GST** shall be complied.
7. The Bid Security is required to protect the BSDS Bhopal against the risk of Bidder's conduct which would warrant the security's forfeiture. **The value of bid security is mentioned in the cover page.**
8. The bidders shall submit Bank Guarantee from any scheduled bank incorporated in India.
9. The Bid Security shall be forfeited by BSDS Bhopal in the following events:
 - 9.1. If Bid is withdrawn during the validity period or any extension thereof duly agreed by the Bidder.
 - 9.2. If Bid is varied or modified in a manner not acceptable to BSDS Bhopal during the validity period or any extension of the validity duly agreed by the Bidder.
 - 9.3. If a Bidder, having been notified of the acceptance of its bid, fails to furnish **Performance Bank Guarantee (PBG)** within 30 days of notification of such acceptance.
 - 9.4. In case at any stage of tendering process, it is established that bidder has submitted forged documents/certificates/information towards fulfillment of any of the tender/contract conditions.
10. The Bid Security of unsuccessful Bidders will be returned after finalization of the bid.
11. The Bid Security of successful bidder will be returned on receipt of **Performance Bank Guarantee (PBG)**. **The validity of PBG would cover the period starting from the acceptance of the contract to the end of the warranty period.**
12. If the contract is awarded, the bidder shall furnish the **Performance Bank Guarantee (PBG) for the value of 10% of the overall cost (excluding taxes) towards Bhopal Sahakari dugdh sangh Bhopal.** This PBG will be released after the guarantee period is over by BSDS Bhopal based on the satisfactory performance of supplied system/item.
13. **70% funds (installation and commissioning cost excluded) may be released** after delivery of items and balance **30% on completion of the scope of work.** All the payments for installation & commissioning will be paid **only at the completion of the job.**
14. BSDS Bhopal shall make payments only through Electronic Payment mechanism (viz. NEFT/RTGS/ECS). A successful Bidder should invariably provide the required bank details as and when required by BSDS Bhopal

General Notes to Bidder/Supplier:

1. **Pre-dispatch inspection at supplier's factory is needed. Post supply inspection is not permitted.**
2. The facility for pre-dispatch inspection / testing for the indented item shall be available with the supplier. Inspection of all the items ordered shall be carried out in presence of purchaser's representative at the supplier's factory. The inspector shall approve the test results, after witnessing the test. This includes the tests for all the requirements mentioned in the indent specifications. Supplier shall provide all the inspection, testing facilities and test reports.
3. Shipping clearance will be issued only after the satisfactory test results.
4. All the relevant catalogues, manufacturer's test certificates in standard format and Operation & Maintenance Manual shall be submitted along with the material.
5. The material shall conform strictly to the relevant specifications and standards.

6. The supplier shall submit a certificate for guarantee of the material/service against any defects **for 18 months from the date of supply or 12 months from the date of installation.**

7. The material shall be properly packed to avoid damage of any kind during transit. BSDS Bhopal is not responsible for any damage during transit. The safe door delivery at BSDS Bhopal is in the scope of supplier.

8. All the work mentioned in the tender document shall be executed at **Main Dairy Plant Habibganj, Engineering (Boiler) Section, Bhopal Sahakari Dugdh Sangh Mydt Bhopal 462024(MP).**

Technical Specification for 5 Ton Oil and Gas (Duel Fire) Fired

Along with economizer (Water Pre Heater)

Description

1	Boiler should be horizontal, shell type fully packed 3-pass smoke tube, fully wet pack automatically controlled, mono-bloc burner with electronic compound regulation capable of firing LPG/Furnace oil along with water pre heater.
2	Boiler should be complete with all mountings, accessories ,controls etc.
3	Boiler construction should be in accordance with the latest revision of Indian boiler regulations 1950, Act 1923 applicable. All materials used should be approved and tested as per relevant existing codes. All the welded joints should be as per code requirement.
4	Boiler should be designed and constructed to generate steam at efficiency of 93+/-1% on net calorific value (NCV) basis. Efficiency should be demonstrated as per standard BS- 845 part 1 indirect method.

Technical Specification

1	Design code/approval		IBR with latest amendment
2	Capacity (Steam output F & A 100°C)	kg/h	Minimum 5000
3	Design pressure (Safety valve set pressure)	Kg/cm ² (g)	10.54
4	Fuel		Furnace oil/ LPG
5	NCV of fuel considered furnace oil	Kcal/NM ³	10350
6	NCV of fuel considered LPG	Kcal/kg	11000
7	Thermal efficiency of NCV basis(%) including economizer		93+/-1%
8	Fuel consumption at maximum output furnace oil	Nm ³ /h	Bidder to quote
9	Fuel consumption at maximum output LPG	Kg/h	Bidder to quote
10	Fuel supply rate-pressure and flow rate	M bar & kg/hr	Bidder to quote
11	Electric supply	AC, 3Phase ,415+/-5%V, 50+/-3%HZ, 4 Wire system	
12	Feed water pump motor	kw	Bidder to quote
13	Combustion air fan motor	kw	Bidder to quote
14	Heating surface area- Boiler-	M ²	Bidder to quote
15	Length	mm	Bidder to quote
16	Width	mm	Bidder to quote
17	Height	mm	Bidder to quote
18	Approx. Dry weight	kgs	Bidder to quote
19	Flooded weight	kgs	Bidder to quote
20	Burner turn down time	Seconds	Bidder to quote
21	Safety valve (inlet/outlet) size	mm	Bidder to quote
22	Quantity of safety valves – 02 no.	Nos	Bidder to quote
23	Main stop valve size	NB	Bidder to quote
24	Blow down valve size	NB	Bidder to quote
25	Auxiliary valve size	NB	Bidder to quote
26	Water level gauge –Twin column type size	NB	Bidder to quote
27	Flue gas outlet flange -dimensions	mm	Recommended
28	Flue gas duct dia	mm	Recommended

29	Feed Water pump type/make vertical multistage stainless steel centrifugal pump		Bidder to quote
30	Feed water pump head	Meter WC	Bidder to quote
31	Feed water flow	LPH	Bidder to quote
32	Total water flow	kw	Bidder to quote
33	Chimney height (it is proposed to use existing chimney)	meter	4.17meters (Bottom diameter) 6 meters (foundation diameter)
34	Insulation on boiler		By supplier
35	Controlling cabling from control panel to boiler mounting instruments		By supplier
36	Power cabling from control panel to all drive motors for boiler		By supplier
37	Cable tray for above cabling		By supplier
38	Structure supports for cabling tray		By supplier
39	Type of foundation		To be mentioned
40	Foundation for feed water pump		To be mentioned
41	Feed water tank	Litre	Bidder to quote
42	Feed water tank MS structure		By supplier
Preferred Make :Thermax/Forbes marshall/Ross make energy industrial Boiler Ltd.			
1	Burner Mono -bloc	Nuway/ Weishaut/ Saacke/ Oilan/ Forbes Marshall	To be mentioned
2	Feed Water pump	Burner Manufacturer's standard	To be mentioned
3	Blower	Burner Manufacturer's standard	To be mentioned
4	Sequence controller	Burner Manufacturer's standard	To be mentioned
5	Photocell	Burner Manufacturer's standard	To be mentioned
6	Mobrey level controller	Malhotra/OEM	To be mentioned
7	Pressure gauges	Forbes Marshall/Fiebeg/OEM	To be mentioned
8	Electrical switch gears	Siemens/ L&T /ABB/Schneider	To be mentioned
9	Cables	Polycab/Finolex	To be mentioned
10	MCB	Siemens/L&T	To be mentioned
11	Pressure switches	Indfoss/OEM	To be mentioned
12	Water level indicator	Teleflo/Tectrol/Leader/OEM	To be mentioned
13	Main steam stop valve & mobrey isolation valve	Forbes Marshall/ Uniklinger/BDK /Leader/OEM	To be mentioned
14	Steam and water valves	Forbes Marshall/ Uniklinger/BDK /Leader/OEM	To be mentioned
15	Safety valve	Fainger Lesser/Sempell/ Leader/OEM/ Forbes Marshall	To be mentioned
16	Blow down valve	Levcon/Leader/OEM	To be mentioned
17	Non Return valve	Spirax Marshall/ Leader/OEM/ Forbes Marshall	To be mentioned
18	Fusible plugs		To be mentioned
Scope Of Supply			
1	FO/LPG fired package boiler complete with all accessories as specified such as fuel system, FD fan, Boiler mountings, motors, starters, etc. Foundation bolts for all items to be supplied Burner with electronic compound regulation , O2 trimming system and VFD .		By supplier
2	Economizer (Water Pre Heater)		By supplier
3	Two nos feed water pump of adequate capacity and rating complete with motor, stators etc.,		By supplier

4	Gas train to regulate the gas pressure from 2 bars to 100-150 mbar.		By supplier
5	Inter connecting piping, fittings etc.,		By supplier
6	Inter connected power & control wiring and instrument tubing etc.,		By supplier
7	Items required for installation, commissioning & start up of boiler		By supplier
8	Accessories –list to be provided		To be mentioned
9	Mountings & Fittings – list to be provided		To be mentioned
10	Drawings and test certificates –After placement of P.O. and at the time of commissioning conformation to be provided.		To be mentioned
Services			
1	Supervision of erection & commissioning		By supplier
2	IBR approval of boiler up to provisional firing order		By supplier
3	All IBR formalities at site and its registration and expenses involved thereof. To be quoted separately		By supplier
Guarantees			
1	The boiler should be guaranteed for trouble free operation for a period of 1 year from the date of handing over.		By supplier
2	Performance guarantee runs should be conducted as per BS 845 part1-1987 indirect test method after one month of continues trouble free operation		By supplier
3	Any defect due to faulty material /bad workmanship should be rectified free of cost to the entire satisfaction on the purchaser.		By supplier
Controls and Safeties			
			To be mentioned
1	Pressure switch	2 or 3 nos	For firing positions of burner
2	Photo resistant cell	1 no	Flame failure and audio visual alarm
3	Sequence controller	1 no	To control sequence of firing, pre-purging, etc.,
4	Modulating mechanism	1 no	Stepped/three stage modulation
5	Low gas pressure switch	1 no	To trip burner with audio visual alarm
6	Water level controller	2 nos	To regulate feed water pump operation and trip burner in case of low level with audio visual alarm
Safety Interlocks			
	Unsafe condition	Instrument	Action
1	High water level	Level controller no.1	Feed pump trip
2	Low water level	Level controller no.1	Alarm & burner shut down
3	Extra low water level	Level controller no.2(overriding controller)	Alarm & lock-out
4	Flame failure	Photocell	Alarm & burner trip
5	Boiler high pressure	Safety valves –twin type	Lift & discharge
Additional Safety features			
1	Fusing plugs	02 nos	To discharge high temperature
2	Peep hole for monitoring flame –front and	2 nos	To view

	back side		
3	Explosion door	1 or 2 nos	To discharge high pressure gas
Instrumentation			
1	Water level controllers	2nos	For feed water operation and low water level alarm
2	Over-ride controller	1 no	For lock –out under extra low water level alarm
3	Steam pressure gauge assembly with cock	1nos	For display of boiler steam pressure
4	Water level gauge assembly	2 nos	For display of water level in the boiler
5	Switch gears. relays connectors	1set	For individual controls of equipment through control panel
6	Audio/visual alarm	1 set	In case of unsafe operation for lock out under extreme conditions
7	Pressure and temp. gauge with thermostat	1 set	For burner operation
8	Control panel	1 no	For housing above instruments and switch gears
9	Steam to fuel ratio monitoring system	1 no	To monitor and display the boiler efficiency no-line, using necessary meters, instrumentation and hardware.
Battery Limits –Suggested			
1	Feed water: Inlet of feed water pump		
2	Steam: Outlet of main steam stop valve		
3	Steam: outlet flange of steam safety valve		
4	Fuel: inlet of gas train		
5	Flue gas: Inlet of chimney		
6	Electrical power :Inlet of control panel		
Exclusion –To be Indicated			

Qualification criterion

S.No	BSDS Standard Terms & Conditions	Supplier’s confirmation Yes/No	If Yes, Documentary evidence provided for compliance
1	The vendor shall be can original equipment manufacturer (OEM).Dealers have to submit authorization certificate from OEM.		
2	The vendor shall have qualified personnel, their own adequate manufacturing/integrating and testing facilities for the equipment offered.		

3	The vendor shall have proven track record for manufacturing ,supplying and successful commissioning of IBR boiler, in the last 3 years		
4	The vendor shall submit audited balance sheet or tax returns or profit loss account for the last 3 years		

BHOPAL SAHAKARI DUGDHA SANGH MARYADIT, HABIBGANJ, BHOPAL 462024



SCHEDULE – III

**Form – A
(To be uploaded - mandatory)**

To,
Chief Executive Officer
BSDSM, Bhopal

Dear Sir,

Please find enclosed herewith scan copy of Online EMD transaction acknowledgement vide no.....dtd.....Rs.....towards EMD deposit.

Seal & Signature of the of the tenderer



SCHEDULE – III

Form – B
(To be uploaded -mandatory)

To,
Chief Executive Officer
BSDSM, Bhopal

Date :

Dear Sir,

I/We hereby furnish below some particulars about our company/unit which will form a part of our offer submission:

1. Name of the Co./Unit : _____
2. Address of the Co./Unit : _____

3. Telephone Nos.(with STD Code) : _____
Mobile No. : _____
Email ID : _____
4. Name of the CEO/Proprietor/
Partner : _____
5. Name and designation of other : _____
Authorized signatory of the Co./Unit
6. Particulars of Regn. Certificate : _____
Issued by the competent authority
(Regn No. & Date)
7. We are manufacturer/distributor/dealer/supplier ofCo.(with proof)
8. GST NO. _____dated-----
9. PAN Number(Permanent Account Number- Income Tax) :
10. Have your Co./Unit or its sister concern ever been black listed/ debarred by BSDSM or its sister Milk Unions or GOI /GOMP & its undertaking ? YES / NO
11. Technical details of machinery shall be supplied (Those who have already submitted in the 1st call need not Sent again)

Seal & Signature of the
Authorized Signatory of the Co./Unit



SCHEDULE – IV

Form – C

(PRICE BID) ONLINE ONLY

NIT Ref. No.	
NAME OF TENDERER:	

S. No	DESCRIPTION	Rate/unit F.O.R Destination inclusive of all freight/levies, installation & Commissioning (GST should be mentioned separately)
1	Supply, installation & commissioning of BOILER Capacity 5 KLPH Including Comprehensive AMC for 02 years (Total Minimum 08 Visits or as and when required after warranty period)	

Note: Purely indicative for e-tender as the rates are required to be filled online in the prescribed BOQ in excel format.

Seal & Signature of the
Authorized Signatory of the Co./Unit

CHECKLIST

S.N.	Important Parameters	Yes/No
1	Sealed and signed tender documents attached with technical Bid envelope and uploaded online?	
2	Filled form A & B attached with technical Bid envelope and uploaded online?	
3	Price schedule uploaded (online only)?	
4	Copy of proof for EMD payment/EMD acknowledgement attached with technical Bid envelope?	
5	PO of similar work executed by supplier in last five year, copy of certificate attached with technical Bid envelope?	
6	Completion certificate for similar work performed in last five year, copy of certificate attached with technical Bid envelope? (Minimum 3 certificates to be attached)	
7	ITR of last three financial year.(ie-FY- 19-20, 18-19, 17-18)	
8	Certificate of OEM/Authorized dealer/supplier etc attached?	
9	Are you Black listed by BSDS Bhopal/ MPCDF/ Any state Govt. Or Central Govt. firms?	