The Bhagirathi Co-operative Milk Producers' Union Limited

(A Govt. of West Bengal Project)

BU/MDO/RIDFXXIX/ 1315 **Date: 03.11.2026**

The Bhagirathi Cooperative Milk Producers' Union Limited invites e-Reverse Auction in two bid system for Procurement, Installation and Commissioning of 3 TPH wood, solid fuel fired boiler with accessories in two bid systems as per specification terms and conditions are mentioned hereunder:

Scope of work	**Supply Installation and Commissioning of 3 TPH solid fuel fired Boiler with Accessories.**
Bid Inviting Authority	**The Managing Director of The Bhagirathi Cooperative Milk Producers' Union Limited**
Estimated cost of work	**Rs. 80,00,000/-**
EMD to be submitted	**Rs. 1,60,000/-**
Technical Bid Documents to be furnished by bidder	**1.** The bidding firm must be an OEM/Authorised Suppliers/Authorized Service providers of Industrial Boilers. Authorized Suppliers or Service Providers of OEM can also participate subject to approval from OEM against the Tender Notice. The authorization certificates should be valid on the last date of submission of bid and should remain valid during the tenure of the contract period if work is awarded. **2.** Bidding firm/company must upload document pertaining to constitution of company like MOA, AOA/Partnership deed, trade license, staff strength, qualification etc. **3.** Bidding firm must upload all statutory certificates, IBR License, etc. required for supply, installation and commissioning of boilers. **4.** Bidding firm must upload a declaration that it has 5 years of work experience in supply, installation and commissioning of 3 TPH or higher, solid fuel fired boiler in any factory/Industry. Work orders or Completion certificate in support of this experience/declaration must be uploaded. The Contact Number of clients must be present. **5.** Bidding firm must possess minimum average annual turnover of Rs 3 crores in last 3 financial years (2023-2024), (2024-2025) and (2025-2026). Audited Balance Sheet of previous three consecutive financial years (2023-2024), (2024-2025) and (2025-2026) must be uploaded. **6.** Income Tax Return of previous three consecutive financial years (2023-2024), (2024-2025) and (2025-2026) must be uploaded. **7.** Participating company must have sales & service setup in West Bengal/Eastern India. Name and address of the same must be uploaded. **8.** PAN CARD and GSTIN (GST Registration Certificate) **9.** Technical Specification as per **ANNEXURE-I**. **10. Bidding Company/Firm must upload product catalogue with diagram, technical specification, prerequisites, output parameters, client list etc.**

	11. DECLARATION to be filled in letterhead of participating bidder as per **ANNEXURE-II**. **12.** Site inspection is mandatory. Bidders are required to make visits, understand the requirements and then then quote the rates. Inspection report is to be uploaded in Technical Bid Folder. Bidders who had conducted site inspections earlier against our previous tender are excused from Site Inspection. Site Inspection Report must be uploaded in the Technical Bid folder.

General Terms and conditions:

1. Bidders are required to go through the Tender Documents understand the requirement the location of the installation and commissioning and then quote their rate. Rate once quoted by the bidder shall be deemed to be quoted by the bidder after understanding the requirements of the Milk Union. Rates once quoted are final and no alteration in rate shall be allowed.

2. During evaluation the Milk Union may summon any bidder and seek clarification/information regarding bids within the stipulated time frame. In case the bidders fail to clarify any query during the stipulated time frame the bid shall be liable for rejection.

3. **Pre-bid Meeting / Site Visit:** Bidders are requested to visit the site before submitting bids. Site visit is mandatory. Bidders are required to make visit, understand the requirements and then then quote the rates. Inspection report is to be uploaded in Technical Bid Folder. Bidders who had conducted site inspections against the earlier Tender are excused from Site Inspection.

4. **Bid Validity:** The rate once quoted in this tender shall remain valid for a period of 365 days from the date of Financial Bid Evaluation. Bidders are therefore required to assess their rates before quoting them.

5. The Milk Union may reject any bid from any party with unsatisfactory performance with the Milk Union or any other Milk Union in the past.

6. **Price:** Price consists of the cost of the equipment, required civil works, dismantling previous equipment, if necessary, installation, commissioning and successful trial run of the entire unit with operational training of the entire unit with one year of comprehensive onsite warranty with all taxes and levies transit insurance, loading and unloading of material at the site. All components and consumables required in testing and commissioning must be taken into account by the bidder before quoting the rates.

7. **Training:** The supplier shall provide operational and safety training for at least 4 personnel of the Milk Union during commissioning, without any extra cost.

8. **Payment**: Payment shall be released in 3 phases in NEFT/RTGS to the Bank Account of the supplier after submission of 3 copies of invoice along with documents mentioned in Documentation clause which are as follows:

- **First Phase**: 40% advance on supply value shall be payable against advance bank guarantee (ABG) of equivalent amount. Advance Bank Guarantee shall be submitted within 20 days of notification of

award of contract. Advance Bank Guarantee shall be valid till the completion of delivery of boiler in good condition. The ABG shall be returned after delivery of the boiler in good condition at The Bhagirathi Cooperative Milk Producers' Union Limited. (Advance Bank Guarantee format for advance payment is given in Annexure-III)

- **Second Phase**: 50% payment shall be released after 1 month of successful installation, commissioning, trial run of the entire Unit along with training of 4 personnels certified by the Concerned Official and approved by the Competent Authority.

- **Third Phase**: The remaining payment of 10% shall be released after submission of 10% bank guarantee of the remaining amount valid for a period of 1 year which commences from the date of final commissioning. This shall serve as Performance Guarantee. In case the supplier fails to provide maintenance and support as per the requirement of the Milk Union or is found to act in a way which jeopardizes the operations of the Milk Union, the Performance Bank Guarantee shall be forfeited after giving a Notice to the supplier in writing and the supplier shall be debarred from participating into any tender in future (Performance Bank Guarantee PBG format is given in Annexure-IV).

9. **Safety Permission and Test Run:** Bidder has to obtain safety permission on the behalf of the Bhagirathi Cooperative Milk Producers' Union Limited from the Directorate of Electricity, Govt. of West Bengal. Fuel and other consumables required for Test run shall be provided by the supplier at his own cost.

10. **After Sales Service**: The Bidders must have local arrangements (within the District of the Milk Union) for 'prompt after sale service' of the installed unit as and when required within warranty period free of cost. The service must be attended within 24 hours from receipt of the information. The Milk Union can provide space for service arrangements.

11. **Warranty**: 12 months of comprehensive onsite warranty from the date of commissioning. If material supplied is found to be having manufacturing defect. It should be replaced by the supplier within 7 days.

12. **Warranty Extension**: If any major equipment has been down for more than 10 days in a year, warranty would be extended by one Month. If any major equipment has been down for more than 30 days warranty would be extended by one Year.

13. **Service Repairing in Warranty Period:** Call logged regarding Service or Repair other than preventive maintenance during Service period must be attended and resolved within 48 hrs. If the call is not responded due to reasons attributable to the supplier, then a penalty of Rs. 2000/- shall be charged per day and the amount shall be deducted from the Performance Guarantee available to the Milk Union.

14. **Maintenance**: Two number of preventive maintenance visits offered in a year during warranty period (Supply of all consumables is the buyer's responsibility). Timely Servicing / rectification of defects during warranty period after having been notified of the defects / service requirement during warranty period, supplier has to complete the required Service / rectification within 2 days' time limit. If the supplier fails to complete service / rectification with defined time limit, a penalty of Rs. 5000/- per day shall be charged as penalty for delay from the supplier. Supplier can deposit the penalty to the milk union directly else the milk union shall have the right to recover all such penalty amount from the Performance Bank Guarantee (PBG). Cumulative Penalty shall not exceed more than 10% of the total contract value after which the Milk Union shall have the right to get the service / rectification done from alternate sources at the risk and cost of the supplier besides forfeiture of PBG. Supplier shall be liable to re-imburse the cost of such service / rectification to the Milk Union.

15. **Insurance:** The supplier shall make arrangements for insuring the goods against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery. If the equipment's is not commissioned and handed over to The Milk union within specified period, the insurance will have to be extended by the supplier at their cost till the successful installation, testing, commissioning and handing over of the goods to Milk Union.

16. **Penal Measure:** Time being the essence of the contract, failure to supply the materials within due time or delay in installation and commissioning of the materials shall invite penalty.

a. Liquidated damages of 0.5% per day subject to a maximum of 10% of the total cost of materials shall be charged if goods are not delivered installed or commissioned in time and the amount will be deducted from the EMD and bills submitted by the supplier.

b. For violation of any terms and conditions of the contract the Bhagirathi Milk Union reserves the right to cancel the contract without assigning any reason thereof. On termination of Contract the Security Deposit will be forfeited and the resultant loss shall be recovered from the company. The subsequent company will be blacklisted for 3 years.

17. **Loading and Unloading:** Loading and Unloading is the responsibility of the supplier. If the Milk Union makes its own arrangement for the unloading of the materials the respective cost of the same shall be deducted from the bidder.

18. **Documentation:** Complete documentation like principal warranty papers, operation manuals, document of technical specifications and guarantee cards have to be furnished by the supplier. Failure to submit any of the above document in hard copies at the time of supply of the materials shall lead to non-acceptance of the material.

19. **Delivery, Installation and Commissioning:** The materials must be Delivered Installed and Commissioned in the office of the Bhagirathi Feeder Dairy, Panchanantala, Berhampore, Murshidabad, 742101 West Bengal. The installation and commissioning of the unit must be completed within 180 days from the acceptance of the Purchase Order. It is critically important to coordinate with the Milk Union before dispatch of materials. Any delay due to statutory approvals (e.g., IBR registration) must be proactively coordinated by the supplier. Delay beyond permissible limit will invoke penalty.

20. **Inspection:** Boiler Unit after delivery is subject to inspection before acceptance. If rejected due to any defect, deficiency transit damage or wrong supply, the report of our inspector in this respect shall be final and no correspondence on the subject would be entertained. The rejected goods should be removed from our premises by the Supplier within 15 days after receipt of our inspection report.

21. NOC & Consent to Operate Boiler from Pollution Control Board shall be obtained by the supplier on the behalf of the Milk Union.

22. **Termination for Default**: The Purchaser, without prejudice to any other remedy for breach of the Agreement, by written notice of default sent to the Supplier, may terminate this Agreement in whole or in part: a) If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Purchase Order, or within any extension thereof granted by the Purchaser; or b) If the Goods do not meet the Technical Specifications or registration requirement (if any) stated in the Agreement; or c) If the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, in competing for or in executing the Agreement; or d) If the Supplier fails to perform any other obligation(s) under the Agreement.

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23. **Termination for Insolvency**: The Purchaser may at any time terminate the Agreement by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent.

24. **Dispute Resolution** Any dispute arising out of the Agreement, which cannot be amicably settled between the parties, shall be referred to adjudication/arbitration in accordance with the Arbitration and Conciliation Act of 1996 of India. The venue of adjudication/arbitration shall be Kolkata. The language of arbitration shall be English.

25. **Applicable Law:** The Agreement shall be interpreted in accordance with the laws of Union of India.

26. **Force Majeure**: If, at any time during the subsistence of this contract, the performance in whole or in part by either party of any obligation under this contract is prevented or delayed by reasons of any war or hostility, act of public enemy, civil commotion, sabotage, fire, floods, explosion, epidemics, quarantine restriction, strikers lockout or act of God (hereinafter referred to as events) neither party shall have any claim for damages against other in respect of such non-performance or delay in performance.

27. The undersigned reserves the right to accept or reject any tenders and to cancel the entire tender process at any point in time without assigning any reason whatsoever.

Sd/-
Managing Director
The Bhagirathi Cooperative
Milk Producers' Union Limited

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SPECIAL CONDITIONS OF CONTRACT FOR MECHANICAL WORKS

1. Scope

The Supplier shall position and install all equipment as per approved layouts. This includes structural platforms and tables, service and product piping with ancillaries, insulation and cladding, interconnections, site clean-up, cleaning chemicals and lubricants, testing, commissioning, painting and training.

2. Positioning and foundations

- The Milk Union arranges the civil foundations. The Supplier does the placing, alignment, grouting and anchor bolts, and supplies any anchor bolts and bedplates not provided with the equipment.
- Equipment shall not be permanently bolted until the alignment has been checked and witnessed by the Purchaser.
- Minor alterations to pockets and anchor bolts are at the Suppliers own cost.

3. Scaffolding and staging

Supplied, maintained and removed by the Supplier at no extra cost. The Supplier reinstates anything disturbed.

4. Platforms and tables

Fabricated for stability, function and appearance, as approved by the Purchaser.

5. Piping

- All piping shall comply with the latest applicable standards.
- The Supplier supplies all pipes, fittings, flanges and instruments as per the P&I diagram, with makes approved by the Purchaser before procurement.
- Piping shall be welded. The Supplier is responsible for weld quality and shall test the welding procedure.
- Supports, guides, anchors and hangers are supplied by the Supplier and approved by the Purchaser. The Supplier shall avoid interference with other services.
- Pipes shall be wire-brushed and air-blasted internally. Ends shall be capped. The outside of black steel pipes gets two coats of red oxide.

6. Steam piping

- High pressure means above 3.5 kg/cm². All pipes and fittings shall be IBR-certified, seamless, of the required schedule, and identified with number and mark.
- Pressure reducing stations shall strictly conform to IBR.
- Low pressure means up to 3.5 kg/cm².

7. Insulation

- Hot lines (steam, condensate, hot water) use mineral or glass wool over a red oxide primer, tied with lacing wire and covered with 20 mm × 24 SWG GI wire netting. Condensate return lines shall have a minimum 25 mm thickness.
- Cold lines (chilled water, glycol, ammonia) use PUF sections with hot bitumen and a vapour seal, or Armaflex with a silver outer film.
- All insulation shall be clad in 22-gauge aluminium (screwed with 12 mm self-tapping screws) or Armaflex cladding.

- If the insulation fails to give the desired performance, the Supplier redoes it at his cost.

8. Interconnections

The Supplier lays service piping per the manufacturer's instructions, including capillary piping and connections to instruments and controls. The Supplier also makes electrical connections for equipment as per the wiring diagrams.

9. Expansion work

- Shutdowns shall be planned in advance and approved by the Purchaser, with minimum disturbance to the running plant.
- The Supplier shall keep the working area clean and get the change-over programme approved.
- Extra work not in the contract is done at mutually agreed cost.

10. Site clean-up

Debris, scaffolding and waste shall be removed continuously. Passages shall not be blocked, and fire hazards shall be avoided. If the Supplier fails, the Purchaser clears the area at the Supplier's cost. The site shall be restored to neat, workmanlike condition before final payment.

11. Chemicals and lubricants

All cleaning chemicals and lubricants up to handover are supplied by the Supplier at no extra cost. The MSDS, SOP and make details shall be shared before use.

12. Testing

- All piping shall be flushed and hydrostatically tested. The Supplier provides the pumps and instruments. The Purchaser provides the water source.
- Test pressures shall be as per the approved test procedure for each system and shall be held for ½ hour with zero drop.

13. Commissioning and trial run

- The Supplier shall complete 100% IQ, OQ and PQ before handover.
- A trial run of up to one week is done at rated output, with rectification of defects and minor modifications at no cost. The Supplier keeps a log sheet.
- Commissioning covers assembly checks, lubrication flushing and oil filtering, service line cleaning, instrument check-out, no-load run and then loaded run to rated output.

14. Troubleshooting

- The Supplier shall demonstrate all controls and safety devices and report any non-performance in detail.
- The Purchaser may call the original manufacturer's representative at the Supplier's cost if the Supplier lacks experience or capability, or if the fault is due to the Supplier's inexperience.

15. Operation after start-up

The Supplier's representatives shall remain on site for a minimum of one month, supervising while the Purchaser's staff operate. The Supplier is responsible for the proper working of the plant during this period.

16. Painting

- Equipment, structures, supports and pipes get two coats of anticorrosive primer and two coats of approved paint. Spray painting is preferred. Surfaces shall be cleaned first and paint spoilage cleaned after.
- Lettering, capacity and flow-direction markings are included.
- Pipelines shall follow the ISI/BIS 2379 colour code. Use synthetic enamel, glossy finish, with a ground colour, and a white flow arrow. Final shade approval is from the Consultant.
- All paint is in the Supplier's scope.

17. Training

The Supplier trains the Purchaser's staff during installation, commissioning and start-up, for a minimum of one month from commissioning.

SPECIAL CONDITIONS OF CONTRACT FOR ELECTRICAL WORKS

1. Scope

Installation, testing and commissioning of the electrical system. This includes HT/LT panels, transformers, DBs, power and control cables, push button stations, motors, earthing and instrumentation, as per the schedule of quantities and drawings.

2. Standards

Work shall conform to BIS codes, the Indian Electricity Act and Rules, Fire Insurance regulations, Chief Electrical Inspector, Factory Inspector and local authority rules, and the manufacturer's manuals. All materials shall be of best quality, uniform and interchangeable. Makes of bought-out items shall be furnished and approved.

3. Equipment and accessories

- **Cable glands:** Nickel-plated brass, single or double compression, to BS 6121. Polyamide for instruments.
- **Lugs and connectors:** Tinned copper or aluminium, crimping type.
- **Route markers:** Galvanised, with 150 mm plate.
- **Cable indicators:** Printed on yellow PVC.
- **Pipes for cables:** GI Class A under floors and MS Class B in air. 40% of the pipe area shall remain free (50% if the run is over 30 m). SS-304 in the dairy process area.
- **Motor isolators, junction boxes and push button stations:** IP-55 cast aluminium, or SS-304 in the process area.

4. Erection of equipment

- Purchaser-supplied equipment shall be handled and transported safely by the Supplier.
- Packing cases shall be opened only in the presence of the Engineer-in-charge. Any damage or shortage shall be reported in writing immediately.

5. Motors

- Check alignment, direction of rotation, bearings and greasing.

- Measure insulation resistance before and after cable connection.
- Test operation with starters and auxiliaries. Check the heater and thermal overload settings.
- Run uncoupled for a maximum of 4 hours and fill in the test certificate.
- Outdoor motors shall have a 14 gauge GI shroud with louvres.

6. Cable handling and laying

- **Pre-checks:** Test cables before laying (continuity, and insulation with a 500/1000 V megger). Avoid sharp bends (minimum radius 10 × cable diameter).
- **Routes and joints:** Separate HT, LT and control cables. Avoid joints. Where unavoidable, use epoxy straight-through joints with the engineer's approval. Leave a 3 m loop at both ends and after every 50 m.
- **Underground:** Minimum depth 750 mm for LT and 1200 mm for HT. Use 75 mm sand bedding above and below, brick cover, and route markers every 50 m and at turns and joints.
- **Under floors:** Use GI pipes, preferably one cable per pipe, and no elbows.
- **Trenches and trays:** The Supplier provides the supports, clamps and trays. Keep 20% tray space spare and lay single tier. Seal trench entries with bituminous mastic.
- **Surface laying:** Avoid where possible. Use GI clamps with saddle spacing of 400–500 mm for cables up to 25 mm diameter and 1000 mm for larger.
- Armoured cables shall never be concealed without GI pipe or conduit.

7. Termination

- Use compression glands with armour earthed.
- Use crimped, solderless lugs.
- Dress and strap cores inside panels, with identification by ferrules or wire numbers.
- Use copper cable between isolators and motors where possible.

8. Testing of cables

- Measure insulation resistance before energising. Above 650 V, measure before and after splicing.
- Do a DC high voltage test on 1.1 kV cables with joints and on all cables above 1.1 kV. Record leakage current and fill in the test certificates.

9. Earthing

- Follow IS 3043 and the Indian Electricity Rules.
- Use plate or pipe electrodes, with earth pits at least 2 m from buildings and 3 m apart.
- Double-earth all equipment with hot-dip galvanised hardware and spring washers.
- Branch leads shall not exceed 10–15 m. Loop impedance shall not exceed 1.0 ohm.
- The transformer neutral shall have an independent earth pit.
- Excavation and refilling are the Supplier's responsibility.

10. Instrumentation and control

- Install transmitters on 2″ SS stands and provide root valves at every tap-off.
- Use SS pipe for instrument air, with a 6 mm PU tube through a needle valve and filter regulator for each instrument.
- Use perforated aluminium trays (minimum 2 mm), loaded to no more than 60%, with tagged cables and tray numbers.

- Erection procedures are open to Client inspection and approval, and shop and site tests shall be done.

ANNEXURE-I

TECHNICAL SPECIFICATIONS 3 TPH WOOD FIRED BOILER

SL. No.	ITEM DETAILS	QTY	UNIT
1	**BOILER COMPLETE – CAPACITY 3 TON/HR F&A 100 DEG C.** **GENERAL DESCRIPTION:** Manual Skid Mounted Hybrid design (Water Cum Smoke Tube) boiler suitable for Wood Chips and Wood Waste firing shall be provided to generate dry saturated steam for use in various processes in the Plant. Capacity and working pressure: Capacity of the boiler shall be 3000 kg/hour F & A 100°C. Rated design pressure of 10.54 kg/cm² (g). **DESIGN REQUIREMENTS:** **Dryness of steam:** The required dryness of steam is 98.0 % (minimum). Boiler shall have to be designed with appropriate arrangement of a system of drum internal/steam separator of adequate size to fulfil this requirement. The boiler shall be water cum smoke tube skid mounted. Boiler construction shall be in accordance with the latest revision of Indian Boiler Regulations 1950, Act 1923. All materials used shall be approved and tested as per relevant existing codes. All the welded joints shall be as per code requirement. The boiler should be of modern compact and be genuinely packaged design. The fire tubes in the tubes nest should be plain without any restriction inside & shall conform to BS 3059 ERW 320. These tubes should be easily accessible for inspection and maintenance. The ports for loading of fuel, removal of ash, primary air inlet, shall be optimally designed for maximum efficiency & minimum losses. The boiler shall be designed and constructed to generate steam at efficiency of 74% (min) on Gross calorific value (GCV) basis at 100 % steam load. Efficiency shall be demonstrated as per standard IS 13979 Part 1 Indirect method. Boiler and accessories shall be mounted on a single base frame. Individual systems such as feed water pump etc. may be on separate base plates welded to the boiler base frame.	1	Set

SL. No.	ITEM DETAILS	QTY	UNIT
	Thermal efficiency: The thermal efficiency on GCV (of fuel) basis under normal working conditions and above 50% load must exceed 70% at all the times. Efficiency shall be demonstrated as per the standard BS: 845 Part 1 – indirect method. The boiler shall generate steam in such a way that available pressure at main steam header remains 10.54 kg/cm² g (operating pressure) all the time. Further reduction of steam pressure beyond main header will be arranged by the purchaser to suit to the process requirement. **Note: 2 Nos inlet valves & 2 Nos outlet valves suitable for Boiler capacity should be installed on the steam header along with required pressure gauge, drain and vent arrangement. All valves shall be piston type only.** Steam Header shall be in supplier scope. **Power** Supply voltage – 3ph, 4 wire, 415 Volts ± 10 % and 50 Hz ± 3 % Control voltage – 240 V, A.C., 1Ph **Steam generating equipment** The complete boiler skid mounted with required shell, water wall, heat recovery unit should be supplied in order to minimize the site work. Bidder to provide details of steam generating equipment as per below table. **DETAILS OF THE BOILER** 1. Capacity: Continuous water evaporation rate of 3000 kg/hr from & at 100° C with Bag filter & MDC (CYCLONE BASED). 2. Design Pressure: 10.54 kg/cm² 3. Quantity: 1 Set. 4. Chimney: Dedicated chimney for the boiler. 5. Length of flue gas duct: Ducting is to be designed and supplied to connect boiler with chimney, as per design requirement / site condition. 6. Steam flow meter: Required (Vortex Type) 7. Water flow meter: Required (Orifice Type) **Firing/Stoking Arrangement** Manual stoking arrangement with fixed grate system with alloy of Cast Iron & Chromium suitable for wood chips / agro-based fuel shall be provided. Grates size shall		

SL. No.	ITEM DETAILS	QTY	UNIT
	be such that the Fuel can be filled easily length-wise & width-wise for uniform & optimum loading of fuel. The length of the grate shall not exceed 2 meters. **AUTOMATIC BLOW – DOWN CONTROL SYSTEM:** This system shall be used to automatically blow-down Boiler water in the shell portion by sensing the conductivity & shall be dedicated for the Boiler. This system shall be used to inline measuring the conductivity for Boiler water & automatically blow-down when TDS levels in Boiler water exceed a set level. The system shall have isolating valves, pneumatically operated control valve, non-return valve, and conductivity sensor of suitable range and of material of construction SS 316, controller to control and monitor TDS level of the boiler water, by-pass manual blow-down valve, upstream & downstream steam piping (IBR certified) and all other associated accessories. The entire assembly shall be insulated. Boiler shall be skid based assembly. Following features are expected from the supplier in the supplied boiler: ● Compact and skid mounted ● Pre-insulated and factory assembled so that time required for erection can be reduced at site ● Shall have flexibility of fuels to be used (wood chips / wood waste / agro-based briquettes). ● It shall be multipass hybrid construction with high combustion volume. ● Shall have easy ash removal and better accessibility for maintenance. ● Package shall include minimum 2 nos fire doors. ● The package shall include the door for ash removal. ● Skid based platform to be provided for SVLOP and other valves at the top of the boiler ● Boiler package shall be inclusive of boiler shell, furnace, grate, refractory baffle walls, membrane chamber / reversal chamber, etc all. ● Boiler Type: Horizontal, Multi-tubular, 3-pass, fully wet shell & tube.		
2	**DRAUGHT SYSTEM:** The system shall comprise of combination of Forced & Induced Draft Fan & regulation with manual damper. The induced draft fan for handling flue gas shall comprise of suitable capacity fan considering the pressure drop in the Mechanical dust collector. FANS Suitable capacity ID, FD centrifugal fans with air modulating dampers shall be selected for the requirement. Vanes of the fans shall be backward inclined / curved. ID Fan shall preferably be installed on the floor level for easier operation & maintenance.	2	Lot

SL. No.	ITEM DETAILS	QTY	UNIT
	Units shall have common base-frame for the fan, gearbox / chain transmission with motor mounted on Anti-Vibration pads. Suitably rated energy efficient motor (EFF1) of TEFC enclosure with class F insulation and IP 55 protection shall be selected for the motor. ID fan capacity/head shall be selected to compensate the pressure drop across MDC, Bag filter & ducting length and Pollution control equipments. Similarly the FD fan capacity/head shall be selected based on pressure drop across APH, ducting length, combustion requirements. ● FD / ID fan direct coupled with motor. ● Forced / Induced draft fan supplied along with motor, base frame, controlling damper, canvas duct and with necessary flanges along with safety guard and expansion joints. ● FD/ID fan MOC: IS 2062 Gr. A/B. ● IE 3 Motor to be used.		
3	**AIR PRE-HEATER (APH):** Air preheater shall be a of shell & tube design to extract heat from exhaust flue gases, to preheat boiler feed water. The design of the APH shall be responsibility of the successful so as to ensure flue gas exit temperature to chimney of 160-180 °C Multi pass counter current flow shell and tube type self-cleaning design air pre heater to pre heat the air for combustion by drawing heat from flue gasses for optimum efficiency of Boiler. ● Tube MOC: IS 1239 ● Jacket MOC: IS 2062 ● With supporting structure. Under part load conditions the Flue gas temperature may fall below 160° C & hence the APH should have a bypass damper. The design shall be complete with stiffeners, insulation, Additional instrumentation like 6" Dial temperature gauges at inlet & outlet of flue gases & Air sides, temperature sensors at FG & water side outlet with digital indication in respective Boiler panel.	1	Lot
4	**REFRACTORY MATERIAL SUPPLY** Castable refractory to be used as per standard specifications required for lining complete furnace. No brick refractory to be used. Application of the Refractory at site shall be a part of supplier scope. Refractory lining work shall be part of supplier scope.	1	Lot

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5	**FLUE GAS DUCTING** Flue gases from the Outlet of the boiler shall be taken across the Air pre-heater & shall be connected to the Pollution Control equipment. Flue gas ducting shall be suitable to receive and convey flue gases across the Mechanical dust collector, ID Fan from the Boiler. MS ducting between the chimney & Boiler shall be fabricated from MS sheet of minimum 4 mm thickness & shall be designed for a peak flue gas velocity of 14 to 16 m/s. Fabricated ducting segments shall be welded to each other and suitably supported within the Boiler House. The flue gas ducting shall be insulated with 50mm thick glass wool insulation with 24 G Al. Sheet cladding & shall be connected to the chimney though a pair of flanges. The Main Flue gas ducting shall be connected to the pollution Control equipment, ID fan & shall have an expansion bellow.	1	Lot
6	**AIR DUCTING** Air ducting shall be suitable to receive and convey air across the Air preheated, FD Fan & shall be dedicated for the Boiler. MS ducting between the FD Fan & Boiler shall be fabricated from MS sheet of minimum 3.15mm thickness & shall be designed for a peak velocity of 14 to 16 m/s. Fabricated ducting segments shall be welded to each other and suitably supported within the Boiler House. The flue gas ducting shall be insulated with 50mm thick glass wool insulation with 24 G Al. Sheet cladding	1	Lot
7	**AIR POLLUTION CONTROL EQUIPMENT** Pollution control equipments shall be installed is Bag filter with MDC in Bypass. Parameters Unit Levels or as Per PCB SPM level mg/Nm³ 100mg/Nm3 or as per latest standard Other parameters if any applicable shall be followed strictly as per PCB norms. **MECHANICAL DUST COLLECTOR** Mechanical dust collector shall comprise of steel structure housing the high efficiency insulated cyclone with air-tight rotary air lock valve (RAV) with operating handle, for efficient removal of fines from the flue gases. The rotary airlock valve shall be driven by geared TEFC, Class F Insulation motor. The entire unit shall be insulated. This will	1	Lot

SL. No.	ITEM DETAILS	QTY	UNIT
	be installed in parallel to the Bag filter & shall be operated in the by-pass mode of Bag filter. MDC should consist of: ● Multi Cyclone dust collector made out of Chilled Cast Iron Cone to Reduce the Fly Ash Emission. ● MDC < 450 mg/nm³ outlet dust concentration. ● RAV is provided at bottom for ash collection. ● With supporting structure. **BAGFILTER (PULSE-JET TYPE) along with ash collection hopper.** The dusty flue gas coming out of the HWG should be routed through the Bag filter before they pass to the chimney. The maximum temperature withstanding capacity of the Nomex / Ryton bags is 220^0C. In case the flue gas temperatures rise above 220 ^{0}C. the RTD based pneumatically operated control valve will bypass the flue gases through the Mechanical Dust Collector. **The outlet emission from bag filter should be < 100 mg/nm3. Should satisfy the local pollution control norms.** ● RAV is provided at bottom for ash collection. ● along with ash collecting hopper. ● With supporting structure.		
8	**CHIMNEY** Chimney shall be suitable to receive and convey flue gases from the Boiler. The chimney shall be designed for conveying flue gases of the boiler at its rated capacity. The chimney for the boiler shall be of self-supporting type, made out of mild steel sheets of suitable thickness. The steel plates and sections used in construction of the chimney along with other materials such as rivets, bolts, should conform to the relevant IS. The corrosion allowance for thickness (5 mm min.) of chimney should be considered for minimum of 20 years life. The chimney height shall be as per the Pollution Control Board's regulation. The design and construction of the chimney shall be conforming to IS: 6533 – Part 1 & 2 – 1989. The height of the chimney if indicated at clause No. 6.0 is the minimum requirement and it will be the successful bidder's responsibility to provide the same as per the PCB regulation.	1	Lot

SL. No.	ITEM DETAILS	QTY	UNIT
	While calculating the load on the chimney the following shall be considered: 1) Dead load considering the weights of the chimney shell and permanent fixtures such as ladders with protection cage, platforms with railings, baffles, helical strakes, flanges, fasteners and all accessories. 2) The imposed load of minimum 2000 Kg/sq.m shall be on the sampling platform. 3) Wind loads in accordance with the provisions contained in IS 875 (part 3)1987. The wind load force on the ladders and other fixtures and accessories fixed to the chimney shall also be determined and added to the force on the chimney. 4) Earthquake loads in accordance to IS 1893: 1975. The chimney design and the foundation design for the chimney shall be determined by considering the maximum forces, effects and stress calculated from combination of any of the following combinations. ● Dead load + wind load ● Dead load + earthquake load ● Dead load + load due to the lining + imposed load on service platforms + wind load ● Dead load + load due to the lining + imposed load on service platforms + earthquake load The chimney should consist of all the accessories and the minimum requirement of few are as follows: • Base plate with gussets plate (minimum thickness of 12 mm) and base stool. • Inspection door with minimum size of 1000 W x 800 W shall be provided. The door shall have handles and all associated accessories. The cut-out made on the chimney should have stiffeners of not less than 50 x 50 x 6 mm angles welded on the periphery of the cut-out in the chimney. Platform for flue gas sampling and inspection: The platform width should be not less than 800mm and should have 1000mm high railings, one additional support shall be provided in the middle of the railings, toe guard support shall be provided at the bottom of the railing. There should be suitable arrangement in the platform for draining out the rainwater. Sampling port shall be provided for flue gas sample analysis as per the PCB regulation. • Twin aviation lights and warning lights. Aviation obstruction light fixture shall be made of Aluminium alloy casing with separate galleries to house a set of two 40 watts (minimum) LED lamps. The lamp fixture shall have suitable red domes on the galleries, and the lamp fixture shall be of reputed make.		

SL. No.	ITEM DETAILS	QTY	UNIT
	Aviation obstruction light point should be connected to the IP 55 grade of protection Cast aluminium junction box installed at the base on the chimney with 3C x 2.5 sq.mm., PVC sheathed, PVC insulated copper cable. The circuit cable shall be run on the rigid PVC conduit, 2mm thick and shall be fixed on the chimney surface with suitable saddles and clamps mounted on the epoxy-based insulators. • Lightening arrestor: Lightening arrestor should be of copper with minimum 5 prongs, the lightening arrestor should be connected to two earth stations. The earthing conductor should be of size should not less than GI 25 x 6 mm/or of equivalent size and conductor material as approved by the local statutory authorities. The earthing conductor should be mounted on the epoxy-based insulators and not directly fixed to the chimney surface. Two earthing conductors should run parallel from the lightening arrestor, and each connected to the independent earth stations. The earth stations in turn should be interconnected with one another. The earth station should be of GI plate conductor and constructed as per IS 3043 latest editions. The earth station should be complete with excavation, filling with charcoal/salt, watering pipe, funnel, earthing conductor, test link, 350x350 mm CI hinged cover with frame complete with all masonry works. • Flue gas inlet: Flue gas ducting is separately specified. The cut-out made on the chimney should have stiffeners of not less than 50 x 50 x 6 mm angles welded on the periphery of the cut-out. The opening made on the chimney for the flue gas duct should be extended by 200 to 1000mm and terminated on counter flanges to facilitate connection of the ducting on the chimney. • Helical strakes to reduce wind excited oscillations for the top 2/3rd height of the chimney. • Chimney bottom should be insulated up to 3 M height by 50 mm white mineral wool followed by cladding with 3 mm MS sheet. MS sheet cladding should be of butt-welded construction. • All MS parts of the chimney shall be given initial surface treatment including degreasing, de-rusting etc., followed by a coat of primer. The chimney should be finally painted with two coats of suitable heat-resistant paint. • Foundation bolt of adequate length and diameter (min 40 mm) shall be provided along with the anchoring channel of section ISMC 150 on the bolt base.		

SL. No.	ITEM DETAILS	QTY	UNIT
	• Template shall be provided by the successful bidder suitable for the foundation bolts for casting the chimney foundation. • The design of the chimney shall be shared with the purchaser subsequent to placement of order. The Basis of design with respect to wind velocity, seismic categorization of the region etc. shall be intimated by the successful bidder post order.		
9	**Feed Water Tank** Feed water Pumps: (1 W + 1 S). Feed water tank shall be provided of capacity 10 KL. The tank shall be MS with level controller. Feed Water Tank – MOC IS 2062. (Vertical Tank) Min Shell thickness 6.0 mm. Inclusive of Nozzles Inlet & Outlet Valves Level Gauge Tank. (Boat and Float Type) Level Switch min 3 Nos. 2 Nos Spare Nozzles for Fresh water. The boiler will be supplied with two nos. feed water multistage vertical pumps (one no. for working duty and one no. to act as stand by) of matching capacity of the boiler. The pump shall be capable of handling water/condensate at high temperature since the condensate return from plant would be used for boiler-feed water of which temperature could go up to 120 Deg C. Pumps will be with SS 304 body & working parts and CI base. Further, maximum discharge pressure of feed water pumps must be suitable to maximum designed steam pressure of the boiler. Class of insulation and number of stages are to be selected accordingly. The pumps are to be provided with EFF-1 high energy efficient motors conforming to IS 12615 – 2004 (Rev 1). The pumps shall be supplied along with suction strainer, suction isolating valves, feed check valves and pressure gauge (100 mm) on delivery side.	1 / 2	No. / Nos.
10	**PRESSURIZED DEAERATOR AND PIPING** The pressurized deaerator should be provided for venting off dissolved gases. The deaerator should be sized for 20 min of storage considering the boiler working. The deaerator should be equipped with level control system. The bidder shall provide entire utility pressure reducing station from steam header to de-aerator. Water control station	1	Lot

SL. No.	ITEM DETAILS	QTY	UNIT
	shall be in bidder's scope which shall maintain level of water in deaerator tank. The deaerator should be located on control panel room. The deaeration vessel shall have 2 inputs. One from Feed water tank. Other from condensate coming from process plant. Bidder to provide control loop based on levels in the vessel, for both inlets including control loop bypass arrangements.		
11	**Boiler Feed Pumps: (1 W + 1 S).** The boiler will be supplied with two nos. feed water vertical centrifugal multistage monoblock pumps (three phase) (one no. for working duty and one no. to act as stand by) of matching capacity of the boiler. The pump shall be capable of handling water/condensate at high temperature since the condensate return from plant would be used for boiler-feed water of which temperature could go up to 120 Deg C. Pumps will be with SS 304 body & working parts and CI base. Further, maximum discharge pressure of feed water pumps must be suitable to maximum designed steam pressure of the boiler. Class of insulation and number of stages are to be selected accordingly. The pumps are to be provided with EFF-1 high energy efficient motors conforming to IS 12615 – 2004 (Rev 1). The pumps shall be supplied along with suction strainer, suction isolating valves, feed check valves and pressure gauge (100 mm) on delivery side.	2	Nos.
12	**SPARES** The bidder shall also quote price in the bid for essential spares for ONE year's normal operation of the plant. All spare components shall be duly quantified and included in the offer with price breakup for each of the spare components. The final list of spares shall be decided based on the offer and discussion while placing of the order. However, total quoted price against spares will be taken into account while evaluating the bid. Following are brief of suggestive components, however, a bidder may provide quote based on his experience and past performance of the plant supplied: Manhole gasket — 1 No. Mud hole gasket — 1 No. Tube cleaning brush — 2 Nos. SS Float, rod & Magnet assembly — 1 No. Pressure switch — 1 No. Toughened glass — 2 Nos. Any other items bidder wish to add	1	Lot

SL. No.	ITEM DETAILS	QTY	UNIT
	A spare not listed above but found necessary for normal functioning/ operation of the boiler for one years will have to be supplied by the supplier. Any spares required during startup and up to successful commissioning of the boiler and all associated equipment (commissioning spares) are separate from the spares mentioned above and will be arranged by the supplier without any additional cost. If a regular spare item gets consumed during commissioning, supplier shall replenish the same before handing over of the steam raising plant to purchaser without any extra cost.		
13	**ELECTRICALS** Conventional type power cum control panel (IP 42 protection) with necessary Circuit breakers, Overload relays, Contactors and Controllers etc. PLC controls for operation of Steam Generator to control the Temperatures and on/off of the blower system to cut off the firing, maintain proper air flow and safeties in the plant. There shall be communication port provided in the system so that the readings can be taken further to Main MIS system. Electrical works from Steam generator control panel and further to motors, instruments etc including earthing. **NON-COMPARTMENTALIZED POWER CUM CONTROL PLC BASED CONTROL PANEL – 1 lot** ● Free standing type, conforming to IP 42 degree of protection. The panel shall be made out of 14/16 SWG CRCA sheets. The required power switchgear for all drives shall be housed in the power section ● Safety Trip for the HWG ● Audio visual alarm for the individual safety trip. ● VFD as required for the system A new free-standing type MCC panel for the proposed Boiler & allied system. The MCC shall be supplied with all suitable components such as main incomer, starters with MPCB as back-up protection, push buttons, indicating lamps, relays, feeder for oil heaters etc. Necessary digital type measuring instruments like voltmeter, ammeter, energy meter etc. shall also be provided in the MCC. The MCC shall be provided with one spare feeder of each rating for future load. One no of 100 A TPN MCCB unit for welding receptacle shall be provided. The welding receptacle shall be provided at appropriate location in the boiler house. Indicators, rotary switches etc. shall be provided on top of the panel and the same shall be at a convenient operating height. The panel shall be designed to operate on 415 volts, 50 Hz. AC electric power supply. It will be completely pre wired and shall have suitable incoming and outgoing feeders. The panel shall be made from 14 Gauge CRCA sheet duly pretreated and painted. Necessary	1	Lot

SL. No.	ITEM DETAILS	QTY	UNIT
	isolators near motors shall be provided as per statutory requirement. MCC shall confirm to specifications mentioned. **Control panel** The control panel shall be supplied and installed in front of the new boiler. Control panel shall be MCC with required switch gears. The panel shall be completely pre wired. Indicators, rotary switches etc. shall be provided on top of the panel and the same shall be at a convenient operating height. Necessary isolators near motors shall be provided as per statutory requirement. The panel shall be installed in boiler house at an approved location. Control panel shall also conform to the general specifications pertaining to MCC. If any specific deviation is necessary to meet the process requirement, same should be highlighted in the bid. The control panel should non-compartment type, have suitable incoming and outgoing feeders. All contactors, switches, starters, MCBs, MPCBs, relays, terminals etc., should be neatly mounted and pre-wired in the panel board terminating in suitably rated terminal blocks/epoxy based insulators. The components of the control panel should also be selected as per below guidelines: • The main incomer to the control panel shall be of suitably rated, 4 Pole, 35 KA, MCCB, with shunt coil. Suitable copper terminal extensions shall be made and fixed on epoxy based insulators for terminating the incoming power cable to the control panel. • Digital type Ammeter (suitable range) and Digital type Voltmeters shall be provided with selector switches. Resin cast CT shall be provided for connecting the ammeter and the voltmeter shall have MCBs for isolation. • The outgoing feeders shall be of suitably rated 440 V, panel mounting type MPCB. Each outgoing feeder shall be segregated with one another by hylem/FRP sheet of minimum 3 mm thickness. • All contactors shall have rated coil voltage of 240 V AC. Individual MPCBs, controls etc., shall be provided for each of the outgoing feeders. Only MCBs shall be used for controls & isolation • Minimum rating of contactor shall be 16 Amps. • The wiring within the panel shall be done using copper cables. Minimum section of power cables shall be 2.5 sq.mm and that of control cable shall be 1.5 sq.mm. CT wiring shall be done with 2.5 sq.mm wire. Indicating ferrules at both cable ends shall be provided. Lugs shall be provided for all power and control cable terminations. • Star-Delta starters shall be provided for the motor ratings above 10 HP.		

SL. No.	ITEM DETAILS	QTY	UNIT
	LT Power Cables, LT Control cables & Instrument cables – 1 lot Power cables from MCC to All Motor & Non Motor Electrical load shall be on 415 V system shall be of 1100 volt grade, multistranded copper conductor, steel braided up to 50 sq.mm & above 50 sq. mm copper conductor, rodent proof &, XLPE insulated, PVC sheathed, armored and overall PVC sheathed strictly as per IS : 7098 PART 1/1988. The size of cable shall be as specified in cable selection chart. No copper cable of size less than 1.5 sq. mm. shall be used. **LT Control Cables** Quantity: 1 Lot Control cables for use on 415 V system shall be of 1100 volts grade, copper conductor, XLPE / PVC insulated, Rodent proof, steel braided type, PVC sheathed and overall PVC sheathed, strictly as per IS: 1554 (Part I) - 1976. The minimum conductor diameter shall be 1.5 sq.mm. **Instrument Cables** Quantity: 1 Lot Instrumentation cables shall be of multi-stranded annealed plain copper conductor, extruded XPLE/PVC type A insulated. Steel braided with Al. Mylar tape along with tinned copper braided for analog signals. For digital signals cable will be unscreened type. Extruded PVC ST1 inner sheath, armoured. Extruded PVC type ST1 outer sheathed instrument signal cables. All instrument cables shall be rodent proof. Min. Size of the instrument cable shall be 0.75 sq.mm. RCP's & JB's: As per system requirement – 1 lot Cable Trays, Cable Glands & Conduits – 1 lot Earthing for electrical power & Automation system – 1 lot UPS for Control & Automation system – 1 Lot Required quantity of armored aluminium & copper cable, copper control cable, signal & instrument cable, GI conduits pipe, plate type earth pit, earthing network, earthing conductors, load break isolators / plug & sockets with Emergency stop Push Button near motors for emergency isolation, rubber mats for panels etc. shall also be provided. The sizes of power cables for different capacity of loads / Motor rating shall be as indicated in cable selection charts. All the power & control cables shall be laid through GI perforated trays and GI conduits. GI shrouds for all pumps & motors shall be provided. Supply & placement of rubber mats of proper size as per the applicable Electrical		

<table>
<tr><th>SL. No.</th><th>ITEM DETAILS</th><th>QTY</th><th>UNIT</th></tr>
<tr><td></td><td>
Inspectorate rules shall be provided. All armored cables between feeders in MCC and plug & socket/isolator junction boxes near motors shall be of copper conductor for cable size up to 35 sq mm. Armored aluminium conductor cable shall be used only for cable size beyond 50 sq mm. Connection from plug & socket/isolator junction boxes to motor junction boxes shall be with PVC insulated flexible copper cable in flexible conduit. The bidder shall provide power cables of suitable rating and no. of runs from PCC in substation to the new MCC in boiler and terminate them at both ends with suitable lugs and glands. Plug in type isolators with emergency stop push button in SS-304 watertight enclosure should be provided for all motors below 10 KW. For motors of 10 KW & above SS-304 watertight junction box with emergency stop push button shall be provided. Cable trays from PCC to MCC & further distribution inside the plant, earth pits & earth strips shall be of GI. Earthing for automation and instrumentation shall be independent of power earthing. Earthing of individual motors shall be provided with PVC insulated 10 sq mm copper wire.

Electric Motors

All electric motors shall be energy efficient motors and shall comply with the following:

a) All poly phase motors of 0.375 kW or more shall have a minimum acceptable nominal full load motor efficiency not less than shown in Table below or as per the IS 12615 – 2004 (Rev 1) for Eff1 energy efficient motors.

Table for Minimum Acceptable Motor Efficiencies

<table>
<tr><td colspan="3">Efficiency%</td></tr>
<tr><th>Motor Size</th><th>2 Pole</th><th>4 Pole</th></tr>
<tr><td>1.1 kW (1.5 hp)</td><td>82.2</td><td>83.8</td></tr>
<tr><td>1.5 kW (2 hp)</td><td>84.1</td><td>85.0</td></tr>
<tr><td>2.2 kW (3 hp)</td><td>85.6</td><td>86.4</td></tr>
<tr><td>3.0 kW (4 hp)</td><td>86.7</td><td>87.4</td></tr>
<tr><td>4.0 kW (5.5 hp)</td><td>87.6</td><td>88.3</td></tr>
<tr><td>5.5 kW (7.5 hp)</td><td>88.6</td><td>89.2</td></tr>
<tr><td>7.5 kW (10 hp)</td><td>89.5</td><td>90.1</td></tr>
<tr><td>11.0 kW (15 hp)</td><td>90.6</td><td>91.0</td></tr>
<tr><td>15.0 kW (20 hp)</td><td>91.3</td><td>91.8</td></tr>
<tr><td>18.5 kW (25 hp)</td><td>91.8</td><td>92.2</td></tr>
<tr><td>22.0 kW (30 hp)</td><td>92.2</td><td>92.6</td></tr>
<tr><td>30.0 kW (40 hp)</td><td>92.9</td><td>93.2</td></tr>
</table>

b) Motor nameplates shall list the nominal full-load motor efficiencies and the full-load power factor.

c) Certificates shall be obtained and kept on record indicating the motor efficiency.
</td><td></td><td></td></tr>
</table>

SL. No.	ITEM DETAILS	QTY	UNIT
	Earthing for electrical power & Automation system Quantity: 1 Lot Complete earthing for the required steam generation plant shall be in the supplier scope. Earthing shall be done in compliance with the local rules and regulations.		
14	**Water / Compressed Air pipes, Valves, Fittings, supports & Insulation** **COMPRESSED AIR PIPING, FITTINGS AND ACCESSORIES – 1 Lot** Oil free, moisture free compressed air shall be provided at one point on the pipe bridge outside the boiler house. Further distribution from this point up to the individual consumption points and including the main header shall be from GI- C class piping. All compressed air pipe supports inside the steam generation plant shall be of GI / MS with GI paint box section. Pipe supports outside the plant shall be of Galvanised MS section. Sizes: As required Material: GI- C Class Valves: SS ball / SS globe / SS diaphragm valves / As required Fittings: As required Air filter and regulators: As required PU tube and fittings: As required Pipe support: As required Pipe clamps: As required **WATER PIPING, FITTINGS AND ACCESSORIES – 1 Lot** General: Pipe sizes and fittings etc. are to be decided as per requirement of various equipment Feed water / soft water shall be provided at the header level on the nearest pipe bridge. From there entire water distribution shall be in the scope of the supplier. This water shall be put in the 10 KL new feed water storage tank. Complete Feed water piping with an isolation valve from new 10 KL feed water tank to boiler feed water pumps and then to the water-inlet of the boiler shall be designed, supplied & installed by the supplier. A 150 mm temperature indicating gauge shall be provided to display the temperature of feed water. The pipeline shall be suitably insulated and cladded with 22 SWG Aluminum sheet.	1	Lot

SL. No.	ITEM DETAILS	QTY	UNIT
	The inlet piping/fitting to Boiler shall conform to IBR requirements and drawing-approval, clearance etc. will be obtained and ensured by the supplier without any extra cost. The feed water pipes shall be of MS "C" class ERW. 1 no. water flow meter magnetic type, suitable for operation up to 120 C (or as required as per heat balance requirements) and pressure higher than the hydraulic test pressure shall be supplied and connected with flanged type isolating valves and accessories in the feed water piping for measurement of water consumption in the new boiler. Feed water tank shall be new. Supplier to provide connection to new water pumps. Piping shall include water piping from Feed water tank to water pump, water pump to Deaeration Vessel, Deaeration vessel to boiler feed water pumps to boiler system. Complete piping required for boiler / steam generation plant shall be in the scope of the supplier. All pipes going to drain shall be provided up to nearest drain point provided in the Boiler section. Bidder shall provide necessary pipe supports for the all the piping. Pressure gauge to be provided on the each pump discharge line. All piping within this battery limit shall be in the scope of bidder. **Drain and Vent Piping also included in the supplier scope.** **Piping** MS "C" class ERW, scheduled 40 pipes / as per IBR wherever applicable, with insulation and aluminum cladding. Quantity: 1 lot Insulation: Glass wool of specified thickness covered with GI wire netting generally. Insulation shall be covered with aluminum cladding – 22 Guage. Thickness: As per relevant IBR standard. The piping and insulation shall be generally as per IBR standard specifications. Sizes / Valves / Control valves / Fittings / Insulation / Cladding / Pipe support / Pipe clamps: As required (each) **Valves** Isolation valves for Pressure gauges and pressure switches. Safety relief valve on the heater outlet. Non return valves as required.		

SL. No.	ITEM DETAILS	QTY	UNIT
	Isolation valves as required. Auto Valves as required. Refer flow diagram given in Design basis. Minimum valves as shown in flow diagram shall be provided. Feed Water Piping from new Feed water tank to Feed Water Pumps to Deaeration vessel to Boiler Feed water pumps to Boiler. All hardware like bends, flange, gasket etc as required. Complete set of isolation and non return valves required in the feed line. Drain Piping from Water Wall, shell & boiler, level gauge etc. Safety Valve Exhaust Piping from Safety Valves upto the Boiler House Outlet. Air Vent Piping from auxiliary valve upto boiler house outlet. Blowdown Piping from Blowdown Valve to the Blowdown Pit. All above included. Compressed air and water shall be provided at one point inside the steam generation section. From that point onwards entire piping, valves, fittings and distribution including accessories required shall be in the scope of the supplier.		
15	**HP STEAM PIPES AND FITTINGS INCLUDING HIGH PRESSURE STEAM HEADER:** Quantity: 1 Lot Type: Seamless, MS heavy duty, Schedule 40 / As per pressure requirements, ASTM A 53 welded type pipes with CS body globe valves/NRVs with SS working parts in flange execution shall be supplied. All pipes and fittings shall be as per IBR requirements only and shall be IBR stamped. The HP steam header shall have 1 incoming nozzle from the Boiler and requisite outgoing nozzles along with condensate drain and pressure gauge system as per IBR rules. All nozzles on HP steam header shall be supplied with the steam cut off valves. Supporting: In mild steel painted execution generally as per requirements. **Piping** Seamless, MS heavy duty, scheduled 40 pipes / as per IBR, with insulation and aluminum cladding.	1	Lot

SL. No.	ITEM DETAILS	QTY	UNIT
	Quantity: 1 lot Insulation: Glass wool of specified thickness covered with GI wire netting generally. Insulation shall be covered with aluminum cladding – 22 Guage. Thickness: As per relevant IBR standard. The piping and insulation shall be generally as per IBR standard specifications. Sizes / Valves / Control valves / Fittings / Insulation / Cladding / Pipe support / Pipe clamps: As required (each) **Valves** Isolation valves for Pressure gauges and pressure switches. Safety relief valve on the heater outlet. Non return valves as required. Isolation valves as required. Auto Valves as required. Refer flow diagram given in Design basis. Minimum valves as shown in flow diagram shall be provided. **INSULATION OF HP PIPES AND FITTINGS** Quantity: 1 Lot Type: Glass wool of specified thickness covered with GI wire netting Insulation shall be covered with aluminium cladding. Thickness: As per standard practice. The steam piping and insulation shall be generally as per standard specifications. Note: Unit rate per meter for the HP Steam piping shall be provided. Total approximate. General: Pipe sizes and fittings etc. are to be decided as per requirement of various equipment Steam piping from outlet of boiler to the steam header & out goings thereof will be supplied, installed and connected by the supplier. A dedicated Steam flow meter, density compensated vortex type with digital display & communicate to central control system for flow rate, total flow, pressure, temperature etc. from the boiler with requisite fittings shall be installed as recommended by the OEM of flow meter. The data from these steam flow meters shall be displayed on the boiler control panel and facility shall be provided to transfer the data to utility PC. Necessary approval for header and interconnecting HP		

SL. No.	ITEM DETAILS	QTY	UNIT
	steam piping from boiler will be obtained from IBR authorities by the supplier within the quoted price. The scope includes preparation and submission of requisite drawings. Bidder shall provide necessary pipe supports for the all the piping. Steam trap lines shall be taken to a suitable location maintaining the aesthetic. The steam header shall have necessary arrangements to remove condensate. Traps to be provided accordingly. Pressure guage to be provided on the steam header. For all steam isolation valves piston type valves shall be used. All piping within this battery limit shall be in the scope of bidder. Refer Design Basis Distribution scheme. **LP STEAM / CONDENSATE COLLECTION & TRANSFER PIPES, VALVES, FITTINGS AND SUPPORTS** ERW, MS heavy duty (C class) with insulation and aluminium cladding General: Pipe sizes and fittings etc. are to be decided as per requirement of various equipment Quantity: 1 lot Insulation: Glass wool of specified thickness covered with GI wire netting generally. Insulation shall be covered with aluminum cladding. Thickness: As per relevant IS standard. The piping and insulation shall be generally as per IS standard specifications. Sizes / Valves / Control valves / Fittings / Insulation / Cladding / Pipe support / Pipe clamps: As required (each) **INSULATION OF HP/LP/CONDENSATE PIPES & FITTINGS** Insulation: glass wool of specified thickness covered with GI wire netting generally. Insulation shall be covered with aluminum cladding. Thickness: as per relevant is standard Note: condensate pipes shall be insulated with glass wool. **STEAM TRAPS ASSEMBLY - COMPACT TYPE** Quantity: 1 LOT		
16	**PRESSURE REDUCING STATION**	1	Lot

SL. No.	ITEM DETAILS	QTY	UNIT
	There shall be 1 no(s) of PRS station; For Deaeration Vessel steam (10.54 Kg/cm2 - 3.5 Kg/cm2) PRS-1 (Located in boiler house) Steam Inlet Pressure: 10.54 Kg/cm2 Steam Outlet Pressure: 3.5 Kg/cm2 Steam flow: Suitable as per Supplier Scope of Supply: PRS shall be equipped with: ● Pneumatically Operated Pressure Reducing Valve with Roboter ● Moisture Separator with compact steam trap module ● Strainer ● Three Isolation Valve (Inlet, Outlet & Bypass) All valves shall be zero leak asbestos free type valve. ● Safety Valve - 1 No ● All interconnecting piping flange to flange end		
17	**Vortex Type HP steam flow meter at the outlet of the Boiler with Transmitter. The reading shall be shown in PLC control panel also.**	1	No.
18	**Magnetic type water flow meter at the inlet of the Boiler system with transmitter. The reading shall be shown in PLC control panel also.**	1	No.
19	**Supporting Structural, Platforms, Ladders, etc & Painting** All supporting structure for tank, Deaerator, Boiler, APH, MDC, Bag filter, Fans, Piping, Electricals, Ducting and other equipments. **Civil foundations shall be provided by the Milk Union.** **Painting: - 1 Lot** All the exposed MS surfaces and boiler shall be thoroughly cleaned with sand blasting followed by two coats of heat resistance anti corrosive primer followed by two coats of heat resistance paint. Similarly all other structures, boiler package items, etc all shall be thoroughly cleaned with sand blasting followed by two coats of heat resistance anti corrosive primer followed by two coats of heat resistance paint.	1	Lot

Bhagirathi

The Bhagirathi Co-operative Milk Producers' Union Limited

(A Govt. of West Bengal Project)

SL. No.	ITEM DETAILS	QTY	UNIT
20	**STATUTORY REQUIREMENTS & APPROVALS** The steam generation plant and piping shall comply with the latest Indian Boiler Regulations (IBR), International Standards Organization (ISO) if required as per State and Indian laws. The electrical equipment and their installation shall comply with the latest Indian Electricity Regulations, local CEIG and the Electricity Board regulations of the Local state. The HP steam piping shall be got approved by the supplier from the statutory authorities and any modifications or changes, if suggested by the authorities, shall have to be carried out by the supplier without any additional cost. IBR certifications shall be provided for entire package including the HP steam pipe line and headers. Before outlet valves of main PRS system, all statutory requirements such as steam generation plant, Steam Main header, HP steam piping, etc shall be in the scope of the bidder. Original IBR certificate shall have to be handed over to the purchaser. The retention amount against SUPPLY component of the order will be certified only after the supplier submits to the Purchaser the file containing all IBR certificate including pipeline IBR certificate as well as statutory approvals.	1	Job
21	**INSTALLATION, TESTING AND COMMISSIONING.** Quantity: 1 Job Erection, testing and commissioning is inclusive but not limited to the following: - Erection & Commissioning of complete steam generation plant shall be responsibility of the bidder. All required material, equipments, tools, welding machines, etc are to be provided by the bidder. The bidder to take entire responsibility of the erection and commissioning of the steam generation plant along with utilities. - Positioning of all the plant equipment in the approved locations, including grouting, anchoring etc as per requirement and as specified in the Special conditions of contract - Mechanical. - Laying of steam and Service pipelines inclusive of the necessary valves, fittings, insulations, etc including the necessary accessories if any. - Anchoring of the pipe lines on necessary supports for all Service pipelines. - Erection/Welding/Grouting into place necessary structural platforms, walkways, hand rails etc., as per requirement.	1	Job

SL. No.	ITEM DETAILS	QTY	UNIT
	- Laying of LT Power cables in GI conduit pipes, Cable trays, underground (including excavation etc as per specifications or in trenches provided by the purchaser, including the anchoring of cable trays/conduits, isolators, junction boxes, remote push button stations, capacitor banks etc. - Termination of Power cables on MCC and on Motor starters, Capacitors, isolators with suitable cable glands, lugs etc. including the drawing & termination through flexible conduits, the flexible copper conductors between motor and isolators/junction boxes. - Termination of control cables/sensor wires on RCPs, control panels, limit switches, indicators, controllers etc - Earthpit installation complete including excavation, installation, refilling etc. In case of chemical earthing drilling as per required process. - Earthing of all electrical equipment with two runs of earth electrode of appropriate size from earthpits, Panel board trenches etc - Approval of Electrical installation executed by the bidder by the Electrical Inspectorate. Necessary statutory fees will be reimbursed on production of stamped receipt. - IBR Approval of all installation executed by the bidder by the IBR Inspectorate. Necessary statutory fees will be reimbursed on production of stamped receipt. - Slow firing of boiler as per Steam generation process plant requirements and as per IBR requirements for the boiler. - Final Boiler firing as per Steam generation process plant requirements and as per IBR requirements for the boiler. - Establising Equipment and Services consumption and efficiency parameters as mentioned in the PO and supplier bid for the boiler. **NOTE** 1. The bidder has to take note of the Special conditions of contract - Mechanical, Electrical and erection which gives in detail the specifications for painting, cable laying/handling as also the details of the Earthing network. 2. Welding: All weld joints for fabricated items should be ground smooth from inside to facilitate easy and free flow of material 3. Erection, testing and commissioning of the steam generation plant shall be considered in totality so as to achieve the desired product capacity and quality.		

SL. No.	ITEM DETAILS	QTY	UNIT
	Testing & Commissioning After completion of erection and connection of all services, the plant shall be operated by the Supplier section wise to make final testing, adjustments & modifications. Supplier shall arrange and demonstrate the commissioning & performance trial runs of the entire plant as per the technical rated parameters offered in the technical proposals. Supplier to depute their commissioning / process engineers to site for pre-commissioning check up and during commissioning period. During Testing and trial period, necessary operating guide lines and practices should be explained to the operating personnel and shall be trained accordingly. Training of the personnel of purchaser at different stages of assembling, installation and operations etc. should be provided. Supplier shall provide complete set of plant documentation for the items supplied and design documents related to it. Also supplier to submit entire plant asbuilt drawings along with Complete plant operation manual. Without this obligation, the supplier shall not be relieved from his duties and plant handover shall not be done. All documents shall be submitted in soft and hard format (3 sets) **COMMISSIONING ASSISTANCE** Supplier to depute their engineers to site for pre-commissioning check up and during commissioning for maximum 30 days in maximum 2 visits. **LIST OF SPARES** The Vendor is requested to provide the list of recommended spares for 1 years of operation and maintenance. The Vendor is also required to provide 1 sets of Service Kits for the Boiler set.		
22	**STANDBY OPERATION & TRAINING** Complete operation, maintenance and troubleshooting Training for at least 10 man days shall be considered and provided to the Client personals.	1	Job

NOTE:

The scope includes design, manufacturing, supply, installation, testing, commissioning and demonstration of performance guarantee of complete Steam generation System according to the specifications mentioned in the technical specification and design basis section. The Vendor shall also be responsible for training the customer's personnels in the field of plant operation & control, maintenance & repair of the equipment involved in the system.

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Bidder to quote lumpsum value for entire project in the online price bid section based on but not limited to the equipment list and specifications mentioned in the tender. Therefore, the items which are not specifically mentioned but required to commission the plant successfully as per tender requirements shall have to be supplied by the bidder, to meet the tender requirements. Also, if bidder has not mentioned any extra items and if at later stage the demand for extra item is made by the bidder to complete the job then the same item has to be supplied at free of cost to the Purchaser.

Bidder to provide all mounting and fittings related to the Boiler.

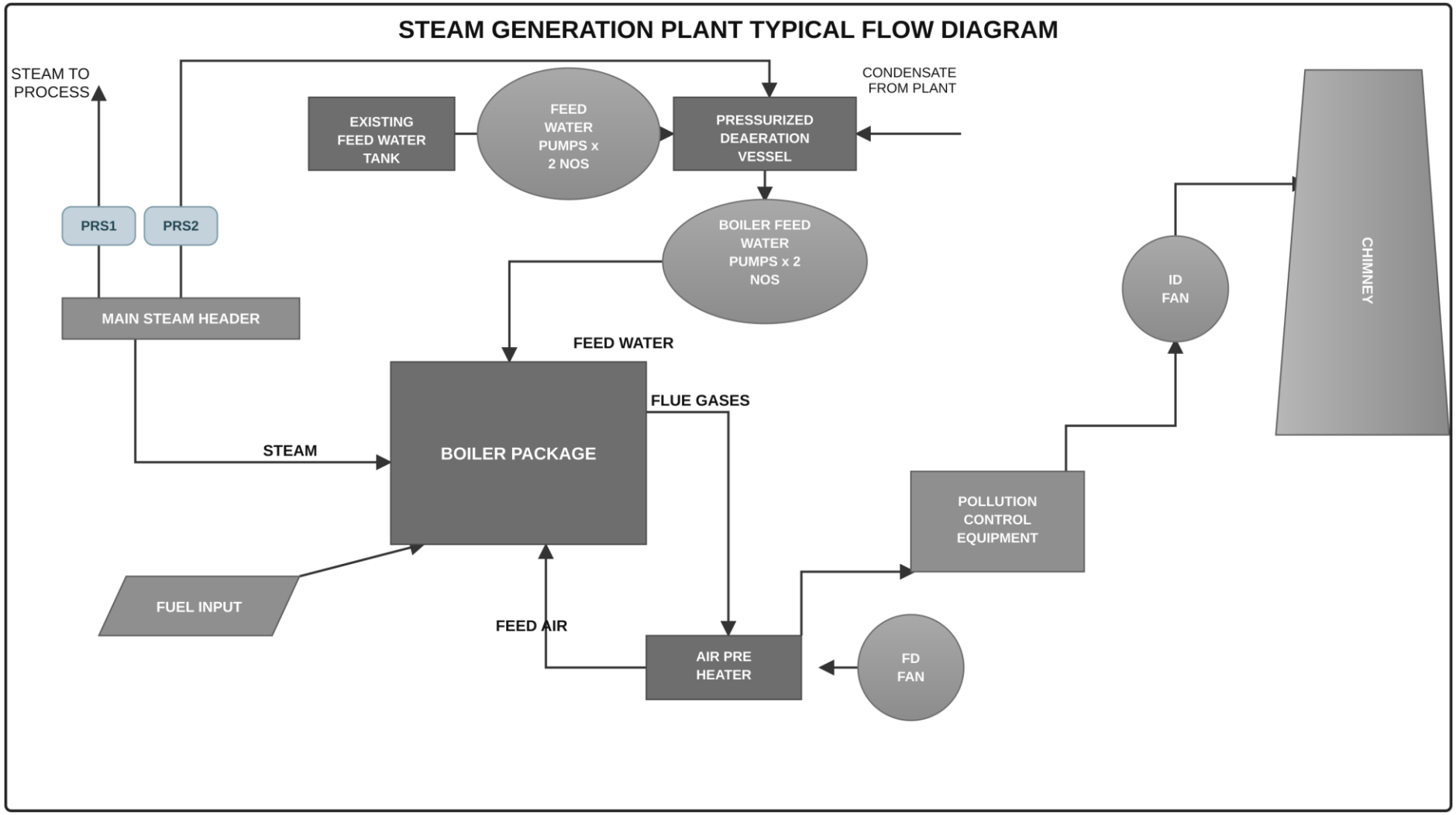
The following equipment are also to be supplied:

1. Water level indicator
2. Pressure Gague
3. Safety Valves
4. Steam Stop Valve
5. Feed Check Valve (NRV)
6. Blow down valve
7. Fusible Plug
8. Mabrey
9. Air compressor 2 HP

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LIST OF PREFERRED MAKES

1. BOILER & ACCESSORIES (3 TPH)

SL. NO.	ITEM DESCRIPTION	PREFERRED MAKES
1.	Boiler steel drum plate	SAIL / TISCO conforming to IBR
2.	Boiler tubes	TATA conforming to IBR
3.	HP steam pipes and fittings	TATA conforming to IBR
4.	HP steam pipe fittings	IBR approved
5.	Feed water pump / Boiler feed pump	Grundfos / CNP / Wilo / KSB / Xylem
6.	FD fan	Oilon / Weishaupt / Saacke
7.	Burner	SAIL / TISCO / RINL / IISCO / Essar
8.	Sequence controller	Thermax / Gestra / Inditech
9.	Photocell	Kromschroeder / Dungs
10.	Steam NRV	Expert / Thermax / Micon
11.	Blow down valves	Levcon / Leader
12.	Single / two / three element water level controller	Levcon / Emerson / E&H
13.	Orifice plate	General Instrument / Starmech
14.	Structural steel	SAIL / TISCO / RINL / IISCO / Essar
15.	Automatic blow down control system	Thermax / Gestra / Inditech
16.	Resin bonded mineral wool (insulation)	Lloyd / UP Twiga / Rockwool / Minwool

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2. STEAM, CONDENSATE & WATER VALVES / PIPES

SL.NO.	ITEM DESCRIPTION	PREFERRED MAKES
1	HP / LP steam / condensate valves	Spirax / Armstrong (USA) / Thermax / Forbes Marshall / Uniklinger / ARI / Equivalent
2	Steam relief valve, traps & strainers	Spirax / Armstrong (USA) / Thermax / Forbes Marshall / ARI / Equivalent
3	Steam pressure reducing valve	Spirax / Armstrong (USA) / Thermax / Mazda / Forbes Marshall / ARI / Equivalent
4	MS pipes for air, steam, condensate	TATA / Jindal
5	GI pipes for water	TATA / Jindal / Zenith
6	Water valves (butterfly / ball)	Audco / Saunders / Intervalve / BDK / Crescent / Festo / Delval / Leader / Uniklinger / KSB / Expert / Micon / ARI
7	Water valves (diaphragm)	Saunders / BDK / Delval / Audco / ARI
8	Non-return valve for water	Audco / Intervalve / BDK / Leader / Delval / ARI
9	Water foot valve	Kirloskar / GG / Leader / Delval / ARI
10	Solenoid valve for water line	Danfoss / Avcon / Rotex / Burkert / SMC / Festo / ARI
11	Control valve	Danfoss / Burkert / Dembla / Samson

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3. INSTRUMENTATION, CONTROLS & AUTOMATION

SL.NO.	ITEM DESCRIPTION	PREFERRED MAKES
1	VFD	Siemens / Schneider / Danfoss / Rockwell / Yaskawa
2	Level transmitter & indicator	E&H / Emerson / Siemens / Anderson Negele / Baumer
3	Temperature / pressure transmitter	E&H / Emerson / Siemens / Anderson Negele / Baumer
4	Conductivity & pH transmitter / turbidity transmitter	E&H / Emerson / Yokogawa / Anderson Negele
5	RTD	Altop / GIC / Radix / Anderson Negele / E&H
6	PID controller	Yokogawa / Jumo / Honeywell / Radix
7	Flow switch	Danfoss / Switzer / IFM / GMBH / Anderson Negele
8	Level switch (vibrating fork / capacitance / admittance type)	E&H / Emerson / Siemens / Anderson Negele / Baumer
9	Level switch (float type)	Pune Tectrol or equivalent
10	Vortex / magnetic flow meter	E&H / Emerson / Siemens
11	Vortex water flow meter	E&H / Emerson
12	FO flow meter	E&H / Emerson
13	Mass flow meter	E&H / Emerson / Siemens
14	Pressure switch / temp. switch / thermostat	Danfoss / Switzer / E&H / Orion / WIKA / Alco
15	Pressure & temperature gauge	GIC / WIKA / Waaree / Radix / Baumer
16	Dual type pressure / temp gauges	GIC / WIKA / Waaree / Radix / Baumer
17	Temperature digital indicator / controller	Yokogawa / Radix / Honeywell

SL.NO.	ITEM DESCRIPTION	PREFERRED MAKES
18	DCS / PLC system & automation system	Siemens / Schneider / Rockwell

4. ELECTRICALS

SL.NO.	ITEM DESCRIPTION	PREFERRED MAKES
1	Electric motors	Siemens / Crompton / ABB / Bharat Bijlee
2	Geared motor / gear box	PBL / Power Master / Elecon / IC Bauer
3	Air circuit breaker	Schneider / Siemens / ABB / L&T
4	MCCB / MPCB	Schneider / Siemens / ABB / L&T
5	Contactors / starter overload relays	Schneider / Siemens / ABB / L&T
6	Electronic soft starter	Siemens / Allen Bradley / Schneider / ABB / L&T / Danfoss
7	Timers electronic	Schneider / Siemens / ABB / L&T
8	Switch fuse units / HRC fuses	L&T / Siemens / Schneider / ABB / GE Power
9	Isolating switches	Siemens / ABB / Schneider / L&T
10	MCBs	Schneider / Siemens / L&T / Hager / MDS-Legrand
11	Push buttons	Teknic / ABB / Schneider / GE / Siemens / L&T
12	Indicating lamps (LED)	Teknic / Schneider / Siemens / ABB / L&T
13	Digital ammeter, voltmeter & power factor meter	L&T / Selec / Siemens
14	Digital energy meter	Conzerv / L&T / HPL Socomec / Siemens
15	Current transformer	Kappa / Meco / AE / IMP / Indcoil / Kalpa
16	Rotary selector switch	Kaycee / Salzer / L&T / Siemens / Schneider

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SL.NO.	ITEM DESCRIPTION	PREFERRED MAKES
17	Terminal blocks	WAGO / Connect Well / Elmex / Lapp India
18	Cable glands / cable lugs	Comet / Ex-Protecta / Dowels / Lapp Kabel
19	LT power cables – aluminium, armoured	RPG (KEC) / Nicco / Universal / Polycab / Havells / KEI / RR Kabel / Lapp / SBEE / Thermocab
20	Copper power / control cables	Polycab / RPG / Asian / Havells / KEI / Lapp / SBEE / Thermocab
21	Signal & instrument cable	Polycab / KEI / Lapp / RR Kabel / SBEE / Thermocab
22	Cable tray	Indiana / MEK / Pilco / Elcon / Metalica Pressings / Power Controls / Swastik / KVT / Silverline
23	IP 55 boxes for motor isolators, push buttons, JBs	Hensel / Eldon / Fabricated (if approved)
24	Servo voltage stabilizer	Suvik / Emerson / Crycard / Aplab
25	UPS	Emerson-Liebert / Hi-Rel / APC / Reilo PC
26	SMF battery	Yuasa-Rocket / Furukawa / Exide / Panasonic / Amaraja

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5. AIR COMPRESSOR & AIR LINE FITTINGS

SL.NO.	ITEM DESCRIPTION	PREFERRED MAKES
1	Air compressor (screw / reciprocating)	Atlas Copco / Ingersoll Rand / Kobelco (Kobe)/ Elgi
2	Refrigerated air dryer	Atlas Copco / Ingersoll Rand / Elgi / Sabroe / Chicago Pneumatics / Hiras
3	Air lines accessories	Festo / Legris / SMC / Rotex / Nucon / Airmatic / Shavo Norgen
4	Auto drain valve	Ultra Filter / Zander
5	NRV for air / oil line	Intervalve / Audco / Leader / Delval

Note:

In case the make of specific items / equipment is not available in the above list, the bidder may indicate the same in their bids. However, the acceptance of the make of specific items / equipment is at the discretion of the purchaser. All makes need to be approved from Milk Union before placement of order to vendors during the detail engineering stage. In case of OEM package such as Boiler plant, etc., OEM makes can differ and hence the same shall be allowed only with pre-approval before placement of sub-order only.

Sd/-
Managing Director
The Bhagirathi Cooperative
Milk Producers' Union Limited

The Bhagirathi Co-operative Milk Producers' Union Limited

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ANNEXURE-II

DECLARATION

(To be furnished in the Letterhead of the Bidder)

1. I/We the undersigned solemnly declare that all the statements made in the documents, records etc., attached with this application are true and correct to the best of my/our knowledge.

2. I/We the undersigned do hereby certify that neither my/our firm/company nor any of its constituent partners have abandoned any work/works of similar nature and magnitude in India, in the past.

3. I/We the undersigned do hereby certify that neither my/our firm/company nor any of its constituent partners have been blacklisted by any organization in the past.

4. I/We the undersigned do hereby certify that any of the contracts awarded to me/us has not been terminated rescinded, due to breach of contract on my/our part in the past.

5. I/We the undersigned authorize (s) and request any bank / person / firm / corporation / Government Departments to furnish pertinent information deemed necessary and requested by The Bhagirathi Cooperative Milk Producers' Union Ltd. to verify the statement made by me/us or to assess my/our competence and general reputation.

6. I/We the undersigned, understand(s) that further qualifying information / clarifications on the statement made by me / us may be requested by The Bhagirathi Cooperative Milk Producers' Union Ltd and agree(s) to furnish such information/clarification within SEVEN Days from the date of receipt of such request from The Bhagirathi Cooperative Milk Producers' Union Ltd.

7. I/We agreed to execute a formal Agreement embodying the terms & conditions of the said online tender and the General Terms & Conditions.

Dated Signature of Applicant with Seal:
To be signed by the officer authorized by the Firm/Company to sign on behalf, the Firm/Company with company's seal)
Note: In case of sole proprietary concern, affidavit should be signed only by the sole proprietor.

(Title of the Officer)
(Title of the firm/Company)
(Date)

The Bhagirathi Co-operative Milk Producers' Union Limited

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ANNEXURE-III

(BANK GUARANTEE FORMAT FOR ADVANCE PAYMENT)

The Managing Director
The Bhagirathi Cooperative
Milk Producers' Union Limited
Feeder Dairy, Panchanantala
Berhampore, Murshidabad
Pin-742101, West Bengal

WHEREAS on or about the……day of…… M/s…… a company/firm/agency registered under the Companies Act 1931/1956/(business registration details) and having its registered office at ……(hereinafter referred to as 'The Supplier') has unconditionally accepted to execute a Contract bearing No……(hereinafter referred to as ' The Award of Contract/PO') with The Managing Director of The Bhagirathi Cooperative Milk Producers' Union Limited (hereinafter referred to as 'The Purchaser') for supply installation and commissioning of 3 TPH wood, solid fuel fired boiler with accessories.

AND WHEREAS under the terms and conditions of the contract an amount of Rs……(Rupees……..Only) representing …… Percent advance payment out of a contract value of Rs……. (Rupees……..Only)is to be paid by the purchaser to the supplier.

AND WHEREAS AND WHEREAS the purchaser has agreed in pursuance of the said terms and conditions of the contract to make an advance payment of Rs……. (Rupees ……..only) to the supplier on the supplier furnishing a Bank Guarantee in the manner herein contained.

NOW WE,……. (Bank) in consideration of the purchaser having agreed to pay to the supplier an advance payment of Rs……. (Rupees……. only) do hereby agree and undertake to indemnify the purchaser and keep the purchaser indemnified to the extent of a sum not exceeding the said sum of Rs. …… (Rupees…… only) against any damage or loss that may be suffered by the purchaser by reason of non-fulfilment of any of the terms and conditions of the contract by the supplier.

We,…… (Bank) do hereby undertake to pay the amount due and payable under this guarantee without any demur merely on a demand from The Managing Director of The Bhagirathi Cooperative Milk Producers' Union Limited stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the purchaser by reason of breach by the said supplier of any of the terms and conditions contained in the said Contract or by reason of the supplier's failure to perform the said Contract. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee, shall be restricted to an amount not exceeding Rs……. (Rupees……only).

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We, …… (Bank) undertake to pay to the purchaser any money so demanded notwithstanding any dispute or disputes raised by the supplier in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the supplier shall have no claim against.

AND We,…….. (Bank) hereby further agree that the decision of the said The Managing Director of The Bhagirathi Cooperative Milk Producers' Union Limited as to whether the supplier has committed breach of any such terms and conditions of the contract or not and as to amount of damages or loss assessed by the said The Managing Director of The Bhagirathi Cooperative Milk Producers' Union Limited as damage or loss suffered by the purchaser on account of such breach would be final and binding on us.

This guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).

Our guarantee shall remain in force until……. And unless a claim under the guarantee is lodged with us within six months form that date all rights of the purchaser under the guarantee shall be relieved and discharged form all liabilities thereunder.

Dated the …….. day of ……..20…

For ……..
(Indicate the name of bank)

The Bhagirathi Co-operative Milk Producers' Union Limited

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ANNEXURE-IV

PERFORMANCE BANK GUARANTEE

Bank Guarantee No.: _____ **Date: _____**

To

The Managing Director
The Bhagirathi Cooperative Milk Producers' Union Limited
Registered Office: Berhampore, Murshidabad
West Bengal – 742101

PERFORMANCE BANK GUARANTEE

WHEREAS M/s. _____, a Company/Firm incorporated under the provisions of applicable laws and having its Registered Office at _____ (hereinafter referred to as **"the Contractor"**, which expression shall, unless repugnant to the context or meaning thereof, include its successors, legal representatives and permitted assigns), has entered into Contract/Work Order No. _____ dated _____ with **The Bhagirathi Cooperative Milk Producers' Union Limited**, having its Registered Office at Berhampore, Murshidabad, West Bengal (hereinafter referred to as **"the Milk Union"**) for the supply, installation, commissioning and/or execution of _____ (hereinafter referred to as **"the Contract"**).

AND WHEREAS, under the terms and conditions of the Contract, the Contractor is required to furnish a Performance Bank Guarantee for an amount of **Rs. _____ (Rupees _____ only)** being 10% of the total Contract Value towards the due and faithful performance of all obligations under the Contract, including warranty obligations.

NOW THEREFORE, WE, _____ **Bank**, a Scheduled Commercial Bank incorporated under the Banking Regulation Act, 1949 and having our Registered Office at _____ and one of our Branch Offices at _____ (hereinafter referred to as **"the Bank"**), at the request of the Contractor, do hereby irrevocably and unconditionally guarantee and undertake to pay to **The Bhagirathi Cooperative Milk Producers' Union Limited**, on its first written demand, without demur, protest, objection or contest, any sum or sums not exceeding **Rs. _____ (Rupees _____ only)** merely upon receipt of a written demand from the Managing Director of the Milk Union stating that the Contractor has failed to perform or fulfil any of the obligations under the Contract.

Any such demand made by the Milk Union shall be final, conclusive and binding upon the Bank as regards the amount payable under this Guarantee, and the Bank shall make payment forthwith without requiring the Milk Union to substantiate its demand or to first proceed against the Contractor.

1. Absolute Liability

We hereby undertake to pay the amount demanded by the Milk Union notwithstanding any dispute or disputes raised by the Contractor before any Court, Tribunal, Arbitrator or any other authority or any changes in the constitution of this bank. The liability of the Bank under this Guarantee shall be absolute, unconditional and unequivocal.

2. Waiver

The Bank waives all rights requiring the Milk Union to proceed first against the Contractor before enforcing this Guarantee.

3. Finality of Decision

The decision of the Managing Director, The Bhagirathi Cooperative Milk Producers' Union Limited, regarding any breach of the Contract by the Contractor and the amount recoverable from the Contractor shall be final, binding and conclusive upon the Bank.

4. Continuing Guarantee

This Guarantee shall remain in full force and effect notwithstanding:

- any amendment, modification or variation of the Contract;
- any extension of time granted to the Contractor;
- any indulgence, concession or forbearance shown by the Milk Union;
- any change in the constitution, management or ownership of the Contractor or the Bank; or
- any assignment or transfer of the Contract.

None of the above shall in any manner discharge or diminish the liability of the Bank under this Guarantee.

5. Validity

This Performance Bank Guarantee shall remain valid for a period of **One (1) Year** from the date of its issuance and shall remain valid up to **/ /20….**

The Milk Union shall be entitled to invoke this Guarantee at any time during its validity.

Any claim under this Guarantee must be received by the Bank on or before the expiry date of this Guarantee, failing which all rights under this Guarantee shall stand extinguished and the Bank shall be discharged from all liabilities hereunder.

6. Irrevocability

This Guarantee is irrevocable and shall not be revoked or cancelled without the prior written consent of The Bhagirathi Cooperative Milk Producers' Union Limited.

7. Jurisdiction

This Guarantee shall be governed by and construed in accordance with the laws of India.

The Courts having jurisdiction at **Berhampore, Murshidabad, West Bengal** alone shall have exclusive jurisdiction in respect of all matters arising out of or relating to this Guarantee.

IN WITNESS WHEREOF

We, _____ **Bank**, have executed this Performance Bank Guarantee on this _____ day of _____***, 20….***

For and on behalf of

_____ **Bank**

Branch: _____

The Bhagirathi Co-operative Milk Producers' Union Limited

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Address: _____

Authorized Signatory

(Signature)

Name: _____

Designation: _____

Employee ID: _____

Bank Seal

Witnesses

Witness–1

Name: _____

Address: _____

Signature: _____

Witness–2

Name: _____

Address: _____

Signature: _____