

# उज्जैन सहकारी दुग्ध संघ मर्यादित, मक्सी रोड़, उज्जैन (म.प्र.) 456 010

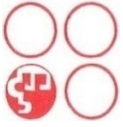
उज्जैन दुग्ध संयंत्र में 4.0 मेट्रिक टन क्षमता के गैस आधारित का स्टीम  
बॉयलर की स्थापना हेतु ई-निविदा।

ई-निविदा क्रमांक उ.दु.स./नस्ती क्रं. पी.ओ.33/याँत्रिकी/2020/3307 दिनांक: 29.08.2020

उज्जैन सहकारी दुग्ध संघ मर्यादित,  
मक्सी रोड़, उज्जैन (म.प्र.) 450010  
फोन नं. 0734-2527071

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ई-निविदा प्रपत्र मूल्य:- रू. ,1,000.00(रू. एक हजार मात्र)



उज्जैन सहकारी दुग्ध संघ मर्यादित

UJJAIN SAHAKARI DUGDH SANGH MARYADIT

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क्रमांक: उ.दु.सं./यांत्रिकी/नस्ती क्रं.पीओ33/2020/3307

दिनांक: 29.08.2020

**E-Tender Notice**

**SUPPLY, INSTALLATION AND COMMISSIONING OF 4 TPH FIRED ON GAS AT DAIRY PLANT UJJAIN ON TURN KEY BASIS**

Online tenders for following items are invited by Ujjain Sahakari Dugdh Sangh Maryadit, from reputed Manufacturers/Authorized suppliers/Channel Partners available on [www.mptenders.gov.in](http://www.mptenders.gov.in). Details are available in [www.mpeproc.gov.in](http://www.mpeproc.gov.in) and on MPCDF's website [www.mpcdf.gov.in](http://www.mpcdf.gov.in) :

S.N o.	Brief Description of the Work	Quantity	EMD. VALUE (Rs.)
1.	SUPPLY, INSTALLATION AND COMMISSIONING OF 4 TPH FIRED ON GAS AT DAIRY PLANT UJJAIN ON TURN KEY BASIS.	01 Nos.	Rs. 5,00,000.00 (Rupees Five Lakh Only)

- Period of sale of Bidding documents : From 03-09-2020 up to 3.00 pm
- Closing date : Date 24-09-2020 Time 2;30 pm
- Pre Bid Meeting : Date 17-09-2020 Time 12.30 pm
- Last date & time for receipt of bids : Date 24-09-2020 Time 2.30 pm
- Time & Date of opening of bids : Date 25-09-2020 Time 3.00 pm
- Place of opening bids : Office of the Chief Executive Officer  
Ujjain Sahakari Dugdh Sangh Maryadit  
Maksi Road, Ujjain
- Cost of bid document : Rs. 1000(Rs. One Thousand only)

Corrigendum/amendment if any to this publication would appear only on the above mentioned websites and will not be published elsewhere. The tender form may be obtained from the <http://mptenders.gov.in> by making online payment as applicable as online charges. Chief Executive Officer, Ujjain Sahakari Dugdh Sangh Maryadit, Ujjain reserves right to accept a tender in whole or in part or reject any or all the tenders, which in their opinion justify such actions, without further explanation to the bidders.

**CHIEF EXECUTIVE OFFICER**  
Ujjain Sahakari Dugdh Sangh Maryadit

# उज्जैन सहकारी दुग्ध संघ मर्यादित

## INVITATION FOR BID (IFB)

Bid Reference	<b>SUPPLY, INSTALLATION AND COMMISSIONING OF 4 TPH FIRED ON GAS AT Dairy Plant Ujjain ON TURN KEY BASIS</b>	
<b>Time Completion Period</b>	6 months from the date of L.O.I.	
<b>Bidding Document Sale</b>	START	03-09-2020
	STOP	24-09-2020
<b>Last Date &amp; Time of Bid</b>		24-09-2020 Time 2:30PM
	OPENING	25-09-2020 Time 3:00PM
<b>Pre-Bid Meeting</b>	17-09-2020	
<b>Place of Pre-Bid Meeting &amp; Place of Tender Opening</b>	Office of the Chief Executive Officer, Ujjain Sahakari Dugdh Sangh,	
<b>Address for communication</b>	Office of the Chief Executive Officer, Ujjain Sahakari Dugdh Sangh,	
<b>EMD. VALUE (Rs.)</b>	Rs. 5,00,000.00 (Rupees Five Lakh Only)	
<b>Cost of bid document</b>	Rs. 1,000.00 (Rupees One Thousand Only)	
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• Annexure-II	Terms & Conditions	
• Annexure-III	Scope of work & Performance criteria	

## ANNEXURE-I

### INSTRUCTIONS TO BIDDERS

**ONLINE TENDERS ARE INVITED FOR THE SUPPLY, INSTALLATION & COMMISSIONING OF 4 TPH FIRED ON GAS AT DAIRY PLANT UJJAIN ON TURN KEY BASIS AT DAIRY PLANT, UJJAIN FROM REPUTED MANUFACTURERS/ AUTHORIZED SUPPLIERS/CHANNEL PARTNERS.**

1. The Tenderer are requested to go through the tender document's instructions and various terms and conditions contained in Annexure-I to II. It may be noted that no conditions or stipulations to the contrary or which are inconsistent will be accepted. Tenderer are requested to ensure that all such schedules along with questionnaire (duly filled-in), are submitted along with their offer. The Tenderer should also note that in absence of any of the schedules, their offer is likely to be rejected.
2. All the details to be filled online as per tender document format and tenderer should read all instructions for compliance before submitting his tender.
3. All tenders must be accompanied with EMD as specified in the tender document.
4. Tenders will be opened in the presence of Tenderers representatives who choose to attend on the specified date and time.
5. In the event of the date specified for tender document receipt and opening being declared as a closed holiday for purchaser's office, the due date for submission of tenders and opening of tenders will be the following working day at the appointed times.
6. The vendor will be responsible for complete civil work related to Boiler House ,Foundations for Boiler and its accessories as well as Support for Piping
7. Prospective bidder must send queries 3 days before Pre Bid Meeting. In Pre bid meeting only those issues will be entertained The bidder or his official representative is advised to attend a pre bid meeting which will be convened at the office of CEO USDSM Venue of the meeting: Office of the CEO, USDSM,  
Date of Pre bid meeting: 17-09-2020  
Time: 12.30 pm

## ANNEXURE-II

# Terms & Conditions

### **1. Eligibility Criteria for TENDERER**

This tender is open for Registered and reputed manufacturer/Authorized suppliers/Channel partners who provide satisfactory evidence:

- a. Supplied/installed minimum 10 nos. of boilers in last five years, out of which At least 02 nos. of boilers installed in cooperative dairies**
- b. Preference will be given to Indian manufacturer so that stage wise inspection of Equipment can be offered to check the quality of product.
- c. Preference will be given to the tenderer having Separate Spare & Service Dept in MP and having sufficient Number of service Engineers nearest to the dairy.

### **2. EARNEST MONEY**

- 2.1. The supplier shall deposit the Earnest Money amount (EMD) of amount Rs. 5.00 Lakh (Rs. Five Lakh Only) only online on [www.mptenders.gov.in](http://www.mptenders.gov.in).
- 2.2. In case, the supplier withdraws his offer during the validity period or after placement of order, the EMD amount shall be forfeited.
- 2.3. EMD shall be returned within 90 days to the un-successful Tenderer, as soon as possible, after the tender is decided and on execution of agreement with successful tenderer. No interest shall be paid on EMD amounts.

### **3. TAXES AND DUTIES**

All taxes and duties should be included in the prices quoted. Any kind of taxes and duties shall not be paid extra. However, the breakup of taxes & duties must be indicated separately.

#### **4. AMENDMENT IN SPECIFICATIONS**

The Ujjain Sahakari Dugdh Sangh Maryadit Ujjain may revise or amend the specification and drawing, prior to the date notified for opening of Bid of tender. Such Corrigendum/amendment if any to this publication would appear only on the above mentioned websites and will not be published elsewhere. Bidders are advised to visit web site frequently to see Corrigendum/amendment if any

#### **5. DELAYED/ LATE SUBMISSION OF TENDERS**

The Ujjain Sahakari Dugdh Sangh Maryadit Ujjain shall not assume any responsibility for any postal delays either for the late receipt of documents. No Extension in time shall be granted on such grounds.

#### **6. ALTERNATIVE TENDERS**

Tender should be submitted as per intent of tender documents; any alternative offers are liable for rejection.

#### **7. DOCUMENTS TO BE SUBMITTED WITH THE TENDER (MANDATORY)**

- a. Copy of Registration Certificate of the Firm / Organization (Tenderer).
- b. Permanent Account Number (PAN) & GST registration
- c. Clint list
- d. Completion/Performance certificates along with Purchase Order of Same Work last five year.
- e. Certificate/authorization letter from manufacturer.

#### **8. ALTERATIONS/CORRECTIONS IN TENDERS**

Any alteration/correction in the tender document should be counter-signed. Further, no post tender alteration/correction shall be entertained

#### **9. INCOMPLETE TENDERS**

Tender which is incomplete or obscure in any form is liable for rejection.

#### **10. ACCEPTANCE OF PART/WHOLE TENDERS-RIGHTS THEREOF**

Ujjain Sahakari Dugdh Sangha Maryadit reserves the right to accept/ reject wholly or partly any tender without assigning any reason whatsoever. The Ujjain Sahakari Dugdh Sangha Maryadit in this regard shall not entertain any correspondence.

## **11. AMBIGUITIES IN CONDITIONS OF TENDERS**

In case of ambiguous or self-contradictory terms/conditions mentioned in the tender, interpretation as may be advantageous to the Ujjain Sahakari Dugdh Sangha Maryadit shall be taken without any reference to the tender.

## **12. DISQUALIFICATION OF TENDERS**

Tender which gets opened before the due date as a result of improper or no indication having been given on the cover to indicate that it is a tender, will be disqualified.

Tenderer will not be permitted to change the substance of his tender on post interpretation/improper understanding grounds. This includes post tender price changes/modifications etc. after opening of Price Bid. In such events, otherwise, that is, when a supplier does not comply, tender will be rejected.

## **13. DEVIATIONS FROM TERMS & CONDITIONS**

Offers with deviations in the terms of payment, liquidated damages, EMD and performance guarantee are liable to be rejected out rightly.

## **14. SUBMISSION & OPENING OF E.M.D. & TECHNICAL BID**

**Bidder has to submit on line EMD receipt, Technical bid form, required documents to prove eligibility as per point no.-1 and documents as per point no.-7 .And also submit the hard copy of these documents before on line opening of tender.**

**Hard copy of Price bid not required, bidder has to submit Price bid only online.**

**The concerned tender committee of USDS shall first open the Technical Bid of all the Tenderer and verify the Earnest Money Deposit and Technical Bid submitted by the Tenderer. In case, the requirements are incomplete in EMD and Technical Bid.**

**Tender shall be rejected of Tenderer.** After technical clearance of the bid by tender committee, price bid will be opened.

## **15. VALIDITY OF TENDERS**

The offers shall be valid for 90 days. Validity of the offer shall be counted from the date of opening of tenders. Those who do not agree for a validity of 90 days will do so at their own risk and their offers are liable to be rejected.

## **16. AUTHORISATION/LOCAL REPRESENTATIVE**

Only authorized representative, possessing necessary authority letter from the supplier who have participated in the tender shall be allowed to attend the tender opening.

## **17. ACCEPTANCE OF TENDER**

- a. Ujjain Sahakari Dugdh Sangh Maryadit may reject any or all tenders or to accept any tender considering advantageous to Ujjain Sahakari Dugdh Sangh Maryadit Whether it is the lowest offer or not.
- b. Ujjain Sahakari Dugdh Sangh Maryadit may split the quantities against the tender on more than one supplier for the same item. The Ujjain Sahakari Dugdh Sangh Maryadit shall assign no reasons for this and the same will be binding on the Tenderer.

## **18. PAYMENT TERMS:**

- a. 50 % against the safe receipt of material at site.
- b. 30 % after Installation, Commissioning and successful trial run of supplied equipment.
- c. 20% after submission of performance bank guarantee of 10% of total project cost with validity not less than one year from date of commissioning. This payment will be processed after submission of Invoices, Delivery challans by supplier.

## **19. PRICES AND STATUTORY LEVIES**

- (i) **The Tenderer should quote price F.O.R. Destination including Erection, Installation & Commissioning and trial run charges on turn Key basis.** However, Item wise or machine wise price break up of following elements may be indicated separately :-
  - (a) Unit Ex-works/Ex-Godown rate including packing and forwarding.
  - (b) Including GST Tax
  - (c) Including Freight charges
  - (d) Any other levy/taxes.



- (e) No revision on any account shall be allowed during execution of the order.
- (ii) Prices offered by the tenderer should be firm and free from all escalations. The prices offered should be valid at least for a period of 90 days from the date of tender opening. Rate approval shall be communicated within 30 days from the date of tender opening.
- (iii) The Material to be supplied shall be dispatched to site by Road transport under intimation to the purchaser and consignee. Depending upon the type of material, the supplier shall have to carry out proper packing/crating to avoid damage/breakage during transit. Road permit for dispatch of material if required will be sent by USDS on written request from supplier.
- After rate approval, the party shall have to execute an agreement on a non-judicial stamp paper worth Rs. 1000/- to be executed with Ujjain Sahakari Dugdh Sangh Maryadit, Ujjain.**

## **20. TRANSIT RISK**

- a. Responsibility regarding covering of risks during transit of material shall entirely be on the supplier. The UJJAIN SAHAKARI DUGDH SANGHA MARYADIT, UJJAIN- shall, in any case, not bear the transit risks/ transit insurance charges.
- b. Insurance shall be arranged by the supplier.

## **21. SUBMISSION OF DRAWING AND LITERATURE**

All the relevant drawings, layouts shall be submitted along with supply of machines. One set of drawing, Descriptive Literature and instructions Manual for Erection, Commissioning and maintenance of the equipments ordered, shall be supplied.

## **22. DELIVERY**

Supply, Erection, Installation & Commissioning shall be commenced within 6 months (including rainy season) from the date of receipt and acceptance confirmation of order or from the date of contract agreement whichever is applicable. In case of any delay due to assembling or any other technical reasons, supplier will have to communicate in advance in written to the CEO, Ujjain Sahakari Dugdh Sangh Maryadit, Ujjain.

### **23. FORCE MAJEURE**

Force majeure condition is herein defined as:-

- (a) Natural phenomena, such as floods, draughts, earth-quakes and epidemics.
- (b) Act of any Government Authority, domestic or foreign, such as war, quarantines, embargoes, licensing control or production or distribution restrictions.
- (c) Accident and disruptions such as fires, explosions, increase in power cut with respect to date of tender opening, break-down of essential machinery or equipments etc.
- (d) Strikes slow down, lockouts continuing for more than three (3) weeks.
- (e) Failure or delay in the supplier's source of supply due to force majeure causes enumerated at (a) to (d) above, provided the supplier produces documentary evidence to show that there were no other alternative sources of supply available to him or if available, the lead time required was likely to be longer than the duration of the Force Majeure at the normal source of supply.
- (f) Any cause which is beyond the reasonable control of the supplier or purchaser as the case may be.  
All the provisions of this clause shall apply whether the disrupting cause is total or partial in its effect upon the ability of the supplier to perform.

24. The original bills should be forwarded to the paying authority and should be marked "ORIGINAL". The bill should indicate GST Registration Number and date allotted to him under GST act..

25. The invoice in triplicate with relevant documents such as Material Receipt in good condition etc. should be submitted to UJJAIN SAHAKARI DUGDH SANGH MARYADIT, UJJAIN.

### **26. PERFORMANCE GUARANTEE**

- a. If during the course of 18 months subsequent to the date of receipt of consignment or 12 months from the date of commissioning whichever is earlier (wherever applicable) any of the goods found to be defective in materials or workmanship or develops defects during service, they will have to be replaced by the supplier, free of all charges. All necessary arrangements on these accounts will be made by the supplier.
- b. The said material if required to be replaced, shall be collected by the supplier/ firm from Area Stores/ work site at their own cost and at their own responsibility. These

materials will like-wise be returned duly repaired/ replaced and tested subsequently by the supplier to the destination indicated on “FREIGHT PAID BASIS” at their cost in a reasonable time of 30 days from the date of intimation. The guarantee period as stipulated in clause 32.1 above shall also be applicable for repaired/replaced material, which shall however be counted afresh from the date of its delivery in our stores/site.

- c. Further, it is clarified that all the charges towards supply of fabrication materials including packing, forwarding, loading, unloading shall be borne by the supplier. The amount deposited under security deposit clause shall also cover the performance guarantee of the material.

All equipment/ line materials reported failed within the specified guarantee period may be replaced free of cost by the supplier.

- d. Actual cost of dismantling and replacement of these equipments/ materials with the new ones may be charged to the supplier’s account.
- e. To and fro transportation cost of such failed equipment may also be borne by the supplier/ supplier.
- f. In the event of the supplier’s inability to adhere to the aforesaid provisions, suitable penal action will be taken, which may include blacklisting of the firm for future business with the UJJAIN SAHAKARI DUGDH SANGH MARYADIT, UJJAIN for a certain period

27. **COMPLETENESS OF EQUIPMENTS** The equipment/material shall be completed in every respect with all minor fittings and accessories, even though these may not be specifically mentioned in the purchaser’s specifications or the tender’s offer. The supplier shall not be eligible for any extra price in respect of such minor fitting and accessories which can be considered as an essential part of the basic equipment even though not specifically mentioned in the specification or in the offer.

28. **LIQUIDATED DAMAGES;**

Delivery date are fixed for supply of material they shall be strictly adhered too. In case they are not followed, or in case of delay in execution or non-execution of the order, the Dugdha Sangh reserves the right either to cancel the order and make alternative purchases from other sources, at the risk and cost & expenses of the defaulting supplier. In case the supplies are not affected as per the schedules, the liquidated damages may be charged on the goods not so delivered as under:-

Sl. No.	Duration of delay	Liquidated Damages
1.	Up to 15 days	1% cost of the unit.
2.	Between 16 to 30 days	2% cost of the unit
3.	Beyond 30 days	Up to 5% cost of the unit.

29. **EXTENSION ORDER**

The UJJAIN SAHAKARI DUGDH SANGHA MARYADIT, UJJAIN Reserves right to place an extension order for any additional quantity to the extent of 100% quantity of the original order on the same rates, terms and conditions within six months from the date of order.

30. **RECOVERIES FOR LIABILITIES AGAINST OTHER CONTRACTS**

All amount recoverable from the successful Tenderer against earlier contracts including orders on sister concern with the UJJAIN SAHAKARI DUGDH SANGHA MARYADIT, UJJAIN will be adjusted from payment due against the contract that may be awarded under this specification.

31. **COMPLIANCE OF REGULATIONS**

The supplier should execute and deliver such documents, as may be needed, by the purchaser in evidence of compliance. All laws, Rules and Regulations are required to be incorporated in this reference. Any liability arising out of contravention of any of the laws shall be the sole responsibility of the supplier and the purchaser shall not be responsible in any manner whatsoever.

32. **CANCELLATION OF ORDER**

32.1 The UJJAIN SAHAKARI DUGDH SANGHA MARYADIT, UJJAIN May upon written notice of default, terminate contract in the circumstances detailed hereunder:-

- a. If in the opinion of the UJJAIN SAHAKARI DUGDH SANGH MARYADIT, UJJAIN the supplier fails to deliver the material within the time specified or during the period for which extension has been granted by the USDS.
- b. If in the opinion of the UJJAIN SAHAKARI DUGDH SANGH MARYADIT, UJJAIN the supplier fails to comply with any of the other provisions of this contract or material is found not in accordance with prescribed specifications and or the approved samples.
- c. As a result of stage inspection, if applicable, it is revealed that material and/ or, workmanship is substandard which is likely to affect the performance of the finished product, a notice would be served by the UJJAIN SAHAKARI DUGDH SANGH MARYADIT, UJJAIN to the supplier to suspend further activities and to take urgent steps towards corrective measures, failing which the entire order would be cancelled.

32.2 In the event of such termination, UJJAIN SAHAKARI DUGDH SANGH MARYADIT, UJJAIN shall exercise its discretionary power as:-

- a. To recover all the amount paid from the supplier the agreed liquidated damages.

**OR**

- b. To purchase from elsewhere after giving due notice to the supplier on account and at the risk of the supplier such stores/ material not so delivered or others of similar description in respect of consignment not yet delivered.

**OR**

- c. To cancel the contract reserving UJJAIN SAHAKARI DUGDH SANGH MARYADIT, UJJAIN right to recover damages.

32.3 Notwithstanding that the powers under clause (a, b & c) referred to above, are in addition to the rights and remedy available to the UJJAIN SAHAKARI DUGDH SANGHA MARYADIT under the general law of India relating to Contract.

32.4 In the event of risk purchase of stores of similar description, the opinion of the UJJAIN SAHAKARI DUGDH SANGHA MARYADIT shall be final. In the event of action taken under clause above, the supplier shall be liable to pay for any loss, which the UJJAIN SAHAKARI DUGDH SANGHA MARYADIT may sustain on that account but the supplier shall not be entitled to any saving on such purchases made against the default.

32.5 The decision of the Chairman, UJJAIN SAHAKARI DUGDH SANGH MARYADIT. shall be final regarding the acceptability of the stores supplied by supplier and the UJJAIN SAHAKARI DUGDH SANGHA MARYADIT shall not be required to give any reason in writing or otherwise at any time for the rejection of the stores/ material.

32.6 In the event, UJJAIN SAHAKARI DUGDH SANGH MARYADIT does not terminate the order as provided in clauses above, the supplier shall continue execution of order, in which case he shall be liable to the UJJAIN SAHAKARI DUGDH SANGHA MARYADIT.

### **33. ARBITRATION**

In case of any dispute ,if arises between the parties relating to any terms and conditions of the Tender / Agreement and or regarding the agreement /tender before or after the filling of tender and /or execution of the agreement, any party may refer the dispute to a sole arbitrator who will be the Chairman of Ujjain Sahakari Dugdh Sangh Maryadit, Ujjain or a person nominated by him whose decision and award shall be final and binding to both the parties. The arbitration proceedings shall be under and accordance with provision of Arbitration and Conciliation Act 1996.

Supplies under the Contract shall be continued by the supplier during the arbitration proceedings, unless otherwise, directed in writing by the Purchaser or unless the matter is such that the work cannot possibly be continued until the decision of the arbitrators or of the Umpire, as the case may be, is issued.

### **34. JURISDICTION**

Any dispute or difference, arising under, out of, or in connection with this tender/ contract order shall be subject to exclusive jurisdiction of competent court at Ujjain only.

### **35. RANDOM TESTING-**

Inspection of material after receipt or waiver of inspection will not relieve the supplier from his responsibility to supply the material strictly in accordance with the specification. The UJJAIN SAHAKARI DUGDH SANGH MARYADIT, UJJAIN

In case, the samples fail to withstand the required test,(As per IBR) the entire lot will be liable to be rejected (i.e. unused material so supplied) and the supplier will have to refund the amount paid, including all taxes and duties, as well as the test charges thereof, after inspection. Such quantities or rejected material as identified, shall be removed by the supplier and replaced in full at his own cost.

**36. CORRESPONDANCE:-**

Copies of all important correspondence on subject should be sent to “CEO, Ujjain Sahakari Dugdh Sangh Maryadit, Ujjain”.

**37. CONSEQUENCES OF BREACH OF AGREEMENT**

If the authorized person of the unit or a partner in the contract/tendering firm commit breach of any of the conditions of agreement it shall be lawful for the Chief Executive Officer, Ujjain Sahakari. Dugdh Sangh Mydt, to cancel the contract and purchase or authorize to purchase stores at the risk and costs of the unit.

**38. DISPUTE ARBITRATION & FINAL AUTHORITY**

- a. It should be clearly understood that in the event of any dispute between supplier and purchaser due to deviation from any terms and conditions of work order & contract agreement, the decision of the Chairman, Ujjain Sahakari Dugdh Sangh Mydt., in this respect will be final and binding on the both supplier and purchaser.
- b. For matters of dispute, relating to the interpretation of the above clause, the decision of the Chief Executive Officer, Ujjain Sah. Dugdh Sangh Mydt, shall be final and binding on all the concerned

## ANNEXURE-III

### SCOPE OF WORK IN 4 TPH BOILER

1. Boiler model capable of generating 4000 kg/hr of steam 100 degcel. with working pressure as 17.5 kg/cm<sup>2</sup> working on Natural Gas fuel as well as Furness oil.
2. Air Pre Heater suitable for Boiler
3. Gas Train for Natural gas suitable for Boiler
4. Chimney 30.5 Mtr high suitable for above Boiler (As per IBR norms).
5. Interconnecting Duct between Boiler to APH to Chimney
6. Soft water storage tank of 10 KL Capacity
7. All water, drain, vent and blowdown piping
8. Fitting of new steam pipeline up to the main plant different section like processing, Ghee, Butter and RMRD.
9. Electrical Work
10. Boiler House shed complete with illumination, Civil Foundations for Boiler & Chimney
11. Plateform , Ladder & Catwalk for Boiler
12. Softner suitable for above Boiler
13. IBR Approval
14. Insulation of Boiler & Pipelines up to main plant.
15. Pressure Reducing Station
16. Installation & Commissioning of above mentioned scope of supply
17. Furness oil storage tank with all accessories 10kl.
18. Warranty for Three Year along with operations.

Note: supplier has to built operate and transfer the aforesaid project within mention time limit.

### SCOPE OF SUPPLY

#### 1) PRESSURE PART ASSLY :-

- **One** Pressure part assembly consisting of the Full fusion welded shell consisting of wet back furnace and two sets of convection smoke tubes, hinged ceramic lined front



doors and smoke chamber with soot cleaning door. One Manhole, Two head holes on the boiler shell to inspect the internal of the boiler. One access opening at the back of the IRC to inspect the internal of the furnace. Two fusible plugs are provided as an ultimate mechanical safety to prevent the boiler from over heating in case of very extra low water level in boiler.

2) **HEAVY OIL CUM GAS FIRED BURNER :-**

- **One** Pressure jet spill return stepless modulation burner with the high voltage spark ignition/Pilot flame for burner lightup. Burner is suitable for firing heavy oil/ Natural gas one at a time. Pressure gauge at inlet & outlet with isolation valve & syphon for oil pressure sensing. Flame sensor is provided in the burner to detect the flame in auto mode operation.

3) **FUEL OIL PUMPING & HEATING UNIT :-**

- **One** Indirect heating type steam cum electric heating tank.
- **Two** Fuel oil gear pump with motor. #
- **Two** Isolating ball valve at fuel pump suction.#
- **Two** Isolating ball valve at fuel pump outlet.#
- **Two** Non-return valve at fuel pump bypass line.#
- **One** Pressure gauge with isolation valve for sensing oil preheatertank pressure
- **One** Pressure switch on oil preheater tank to cut steam/Electric heating In case of high tank pressure.
- **One** Y-type strainer in oil line at oil preheater outlet.
- **One** Steam trap with isolation & bypass valve at steam coil outlet.
- **One** Temperature element with thermowell for sensing fuel oil temperature.
- **One** Pneumatically operated ball valve at steam coil inlet.

# Qty of these items will be one no for single fuel pump option

4) **AIR /OIL/GAS REGULATING ASSEMBLY:-**

- **One** Damper assembly with step motor & cam linkages with oil regulating valve to control oil flow rate to the burner. Separate cam is provided for gas  
Proper support frame is provided to mount the Air regulating assembly.

5) **FORCED DRAFT COMBUSTION AIR FAN :-**

- **One** Backward curved design Forced draft combustion air fan with the motor & flexible duct at the suction & discharge of the fan to prevent the other components from any vibration. Arrangement is provided to connect the Air regulating assembly at the suction of the fan.

6) **FEED WATER PUMPS:-**

- **Two** Highly efficient Centrifugal multi-stage, vertical feed water pumps with motor. Impellers & shaft of the pump are of stainless steel .

7) **CONTROL PANEL BOX ASSEMBLY :-**

a) Panel box specification

**One** Power cum control panel, free standing type conforming to IP 42 with MCB/MCCB. The panel is made out of 14 / 16 SWG CRCA sheets and painted with polyurethane paints / synthetic enamel / powder coated .

The power & control section are physically isolated with partition plate. The power section is provided with a main incomer Isolating switch with MCCB. The required switch gears for all the feeders are housed in the power section. Burner management system along with necessary start stop button, auxiliary contactor, control circuit of all motors , indication lamps & hooter for the alarm are housed in the control section.

b) **Set of instruments mounted in the panel**

- **One** Temp indicator & switch is provided in the control panel to indicate the fuel oil temp & for controlling the same within the set value. This switch gives the low oil temperature lamp indication, alarm & burner trip interlock.

- **One** Temp indicator & switch is provided in the control panel to indicate the boiler stack temp. This switch gives high stack temp alarm, lamp indication & burner trip interlock.
- **One** Sequence controller for burner management system.

8) **FIELD MOUNTED INSTRUMENTS** :-

- **One** Pressure switch for stepless modulation.
- **One** Pressure switch for burner ON/OFF control.
- **One** Temperature element for flue gas temperature
- **One** Pressure switch to sense low combustion air pressure.

9) **ACCESSORIES** :-

a) Air ducting

- **One** Set of M.S ducting to connect the burner to F.D.Fan.

b) Piping

- **One** Set of Natural gas piping from gas train to burner inlet
- **One** Set of feed piping to connect feed water pumps to the boiler.

Set of valves & fittings to be fit with the feed piping.

- **Three** Stop valves on feed water line.
- **Three** Non-return valves on feed water line.
- **Two** Pressure gauges at the outlet of the pumps.
- **Two** Isolation valves for the pr gauges.

c) Set of valves mountings & fittings for the boiler

- **One** Main steam stop valve.
- **Two** Spring loaded single port safety valves.
- **One** Air vent valve.
- **One** Blow down valve.
- **One** Main steam pressure gauge.
- **One** Explosion door for protection against high flue gas pressure .

- **Two** plain tubular gauge glasses along with inbuilt isolation and drain valves.
- **Two** Float operated magnetic water level controller,
- **Eight** Isolation valves for Main steam pressure gauge , Inspector pr gauge & Isolation valve and drain valve for two float operated level controller.

- **Two** Reflex type gauge glasses along with inbuilt isolation and drain valves.
- **One** Float operated magnetic water level controller,
- **Five** Isolation valves for Main steam pressure gauge , Inspector pr gauge & Isolation valve and drain valve for two float operated level controller.

d) Structure

- **One** Set of ladder & catwalk to operate the valves & fittings mounted on the Boiler.

10) **FUEL OIL FILTER :-**

**One** Duplex type basket filter with 80 mesh filter element.

11) **GAS TRAIN CONSISTING OF :-**

- **One** Isolating ball valve on main line.
- **One** Gas filter
- **Two** Pressure gauge each at upstream &down stream of the pressure regulator with push to read valves.
- **One** Gas pressure regulator.
- **One** Safety shutoff valve #
- **One** Relief valve with isolation ball valve #
- **One** Low gas pressure switch
- **Two** Solenoid Valves
- **One** Solenoid valve on pilot line

# Applicable for High pressure gas train ( Gas inlet pressure 1-2 Bar)

## SAFETIES PROVIDED IN BOILER

Unsafe condition	Instruments	Action
(a) Low water level in the boiler #	Level controller-1	Alarm & burner trip
(b) Extra low water level in the boiler	Level controller -2	Alarm & burner trip
(c) Very extra low level	Fusible plug	Fusible plug blow & burner trip
(d) Flame failure	Flame sensor	Alarm & burner trip
(e) Low fuel oil temp	Temperature switch	Alarm & burner trip
(f) Steam pressure high	Safety valve	Lift
(g) Stack temp high	Temperature switch	Alarm & burner trip
(h) Gas pr low	Pressure switch	Alarm & burner trip
(i) combustion air pr low	Pressure switch	Alarm & burner trip

Note –

- 1) For avoiding the dry run of the boiler feed water pumps bidder has to provide the potential free contact of the extra low level switch of the soft water tank , to be hooked up in the boiler control panel.
  
- 2) Ring main system along with the circulation header, Pressure switch to sense ring main pressure is to be provided by the client. Potential free contact of the pressure switch is to be hooked up in the Boiler control panel to trip the main fuel pump in case of ring main pump pr low to avoid burner inlet pressure fluctuations

## PERFORMANCE CRITERIA

The performance parameters of the boiler under the bidders offer are based on the availability of the following inputs with their corresponding values, as specified.

### 1) FUEL :-

*Furnace oil / Natural Gas as specified in the IS- 1593 as following.*

- |                        |    |                           |
|------------------------|----|---------------------------|
| 1) Net calorific value | -- | 9650 Kcal/kg              |
| 2) Flash point         | -- | 60 - 70 deg c             |
| 3) Water content       | -- | 1%vol . (max)             |
| 4) Kinematic viscosity | -- | 250 cst @ 50 deg c( max ) |
| 5) Pour point          | -- | 15 deg c                  |
| 6) Sediment            | -- | 0.25 %                    |
| 7) Sulphur             | -- | 4.5 % ( max )             |
| 8) Contradson carbon   | -- | 4% .                      |

*Natural Gas ( With composition % by VOL as given below)*

- |                                  |    |                            |
|----------------------------------|----|----------------------------|
| 1) CH <sub>4</sub>               | -- | 76%                        |
| 2) C <sub>2</sub> H <sub>6</sub> | -- | 10%                        |
| 3) C <sub>3</sub> H <sub>8</sub> | -- | 2%                         |
| 4) N <sub>2</sub>                | -- | 6%                         |
| 5) CO <sub>2</sub>               | -- | 6%                         |
| 6) Net calorific value           | -- | 8500 Kcal/ Nm <sup>3</sup> |
| 7) Density                       | -- | 0.91 Kg/Nm <sup>3</sup>    |
| 8) <i>Maximum Inlet Pressure</i> | -- | 500 mbar                   |

### 2) WATER :-

Feed water specification as follows as per IS 10392 –1982

- |                             |   |                 |
|-----------------------------|---|-----------------|
| 1) Hardness                 | < | 10 PPM          |
| 2) Dissolved O <sub>2</sub> |   | 0.1 PPM (max)   |
| 3) pH value                 |   | 8.5 to 9.5      |
| 4) Free CO <sub>2</sub>     |   | Nil             |
| 5) Bound CO <sub>2</sub>    | < | 5 PPM           |
| 6) TDS                      |   | 400 PPM (max)   |
| 7) Temperature              |   | 90 deg. C (max) |
| 8) Chloride                 |   | 50 ppm (MAX)    |

Note :

- (a) TDS value indicated is the maximum permissible. However, based on the blow down

percentage, the allowable TDS should be worked out considering operating economics.

- (b) The feed water temperature indicated requires a minimum tank elevation of 3 meter.
- (c) Conditioning chemicals need to be added to keep the hardness causing salts in Suspension.

Boiler Water specification as per the IS 10392 –1982

Total Alkalinity	700 PPM max.
pH	11 to 12
Phosphate (as PO4)	20 - 40 PPM
Sodium sulphite Na <sub>2</sub> SO <sub>3</sub>	30-PPM min, 50 PPM max.
Silica (SiO <sub>2</sub> )	< 0.4 PPM of caustic alkalinity
TDS	3500 PPM max.
Conductivity	1000 - 10,000 uS/cm

3) POWER :-

Supply voltage	3 ph, 4 wire, 415 / 380 ± 6 % V and 50 ± 3 % Hz
Control voltage	240 / 220 V, A.C., 1 ph

Note - Control supply one phase to be drawn form the three phase supply line with the neutral .

4) EFFICIENCY :-

Efficiency shall be demonstrated as per the standard BS: 845 Part 1 - indirect method.

**Bill of Quantity**

1) <u>PRESSURE PART ASSLY</u> :-		Quantity
1.1	Pressure part assembly consisting of the Full fusion welded shell consisting of wet back furnace and two sets of convection smoke tubes, hinged ceramic lined front doors and smoke chamber with soot cleaning door. One Manhole, Two head holes on the boiler shell to inspect the internal of the boiler. One access opening at the back of the IRC to inspect the internal of the furnace. Two fusible plugs are provided as an ultimate mechanical safety to prevent the boiler from over heating incase of very extra low water level in boiler.	One

<b>2) <u>HEAVY OIL CUM GAS FIRED BURNER :-</u></b>		
<b>2</b>	Pressure jet spill return stepless modulation burner with the high voltage spark ignition/Pilot flame for burner lightup. Burner is suitable for firing heavy oil/ Natural gas one at a time. Pressure gauge at inlet & outlet with isolation valve & syphon for oil pressure sensing. Flame sensor is provided in the burner to detect the flame in auto mode operation.	One
<b>3) <u>FUEL OIL PUMPING &amp; HEATING UNIT :-</u></b>		
<b>3.10</b>	Indirect heating type steam cum electric heating tank.	One
<b>3.12</b>	Fuel oil gear pump with motor. #	Two
<b>3.13</b>	Isolating ball valve at fuel pump suction.#	Two
<b>3.14</b>	Isolating ball valve at fuel pump outlet.#	Two
<b>3.15</b>	Non-return valve at fuel pump bypass line.#	Two
<b>3.16</b>	Pressure gauge with isolation valve for sensing oil preheater tank pressure .	One
<b>3.17</b>	Pressure switch on oil preheater tank to cut steam/Electric heating	One
<b>3.18</b>	In case of high tank pressure.	
<b>3.19</b>	Y-type strainer in oil line at oil preheater outlet.	One
<b>3.20</b>	Steam trap with isolation & bypass valve at steam coil outlet.	One
<b>3.21</b>	Temperature element with thermowell for sensing fuel oil temperature.	One
<b>3.22</b>	Pneumatically operated ball valve at steam coil inlet.	One
# Qty of these items will be one no. for single fuel pump option		
<b>4) <u>AIR /OIL/GAS REGULATING ASSEMBLY:-</u></b>		Quantity
<b>4.10</b>	Damper assembly with step motor & cam linkages with oil regulating valve to control oil flow rate to the burner. Separate cam is provided for gas Proper support frame is provided to mount the Air regulating assembly.	One
<b>5) <u>FORCED DRAFT COMBUSTION AIR FAN :-</u></b>		
<b>5.10</b>	Backward curved design Forced draft combustion air fan with the motor & flexible duct at the suction & discharge of the fan to prevent the other components from any vibration. Arrangement is provided to connect the Air regulating assembly at the suction of the fan.	One
<b>6) <u>FEED WATER PUMPS:-</u></b>		



6.10	Highly efficient Centrifugal multi-stage, vertical feed water pumps with motor. Impellers & shaft of the pump are of stainless steel.	Two
<b>7) CONTROL PANEL BOX ASSEMBLY :-</b>		
<b>a) Panel box specification</b>		
7.a.1	Power cum control panel, free standing type conforming to IP 42 with MCB/MCCB. The panel is made out of 14 / 16 SWG CRCA sheets and painted with polyurethane paints / synthetic enamel / powder coated. The power & control section are physically isolated with partition plate. The power section is provided with a main incomer Isolating switch with MCCB. The required switch gears for all the feeders are housed in the power section. Burner management system along with necessary start stop button, auxiliary contactor, control circuit of all motors, indication lamps & hooter for the alarm are housed in the control section. isolated with partition plate. The power section is provided with a main incomer Isolating switch with MCCB. The required switch gears for all the feeders are housed in the power section. Burner management system	One
<b>b) Set of instruments mounted in the panel</b>		
7.b.1	Temperature indicator & switch is provided in the control panel to indicate the fuel oil temp & for controlling the same within the set value. This switch gives the low oil temperature lamp indication, alarm & burner trip interlock.	One
7.b.2	Temperature indicator & switch is provided in the control panel to indicate the boiler stack temp. This switch gives high stack temp alarm, lamp indication & burner trip interlock.	One
	Sequence controller for burner management system.	One
<b>8) FIELD MOUNTED INSTRUMENTS :-</b>		
8.10	Pressure switch for stepless modulation.	One
8.12	Pressure switch for burner ON/OFF control.	One
8.13	Temperature element for flue gas temperature	One
8.14	Pressure switch to sense low combustion air pressure.	One
<b>9) ACCESSORIES :-</b>		
<b>a) Air ducting</b>		
9.a.1	Set of M.S ducting to connect the burner to F.D.Fan.	One
<b>b) Piping</b>		
9.b.1	Set of Natural gas piping from gas train to burner inlet	One
9.b.2	Set of feed piping to connect feed water pumps to the boiler.	One

<b>c) Set of valves &amp; fittings to be fit with the feed piping.</b>		
<b>9.c.1</b>	Stop valves on feed water line.	Three
<b>9.c.2</b>	Non-return valves on feed water line.	Three
<b>9.c.3</b>	Pressure gauges at the outlet of the pumps.	Two
<b>9.c.4</b>	Isolation valves for the pr gauges.	Two
<b>d) Set of valves mountings &amp; fittings for the boiler</b>		
<b>9.d.1</b>	Main steam stop valve.	One
<b>9.d.2</b>	Spring loaded single port safety valves.	Two
<b>9.d.3</b>	Air vent valve.	One
<b>9.d.4</b>	Blow down valve.	One
<b>9.d.5</b>	Main steam pressure gauge.	One
<b>9.d.6</b>	Explosion door for protection against high flue gas pressure.	One
<b>9.d.7</b>	NIL	NIL
<b>9.d.8</b>	plain tubular gauge glasses along with inbuilt isolation and drain valves.	Two
<b>9.d.9</b>	Float operated magnetic water level controller,	Two
<b>9.d.10</b>	Isolation valves for Main steam pressure gauge, Inspector pr gauge & Isolation valve and drain valve for two float operated level controller.	Eight
<b>9.d.11</b>	Reflex type gauge glasses along with inbuilt isolation and drain valves.	Two
<b>9.d.12</b>	Float operated magnetic water level controller,	One
<b>9.d.13</b>	Isolation valves for Main steam pressure gauge, Inspector pr gauge & Isolation valve and drain valve for two float operated level controller.	Five
<b>e) Structure</b>		
<b>9.e.1</b>	Set of ladder & catwalk to operate the valves & fittings mounted on the Boiler.	One
<b>10) FUEL OIL FILTER :-</b>		
<b>10.10</b>	Duplex type basket filter with 80 mesh filter element.	One
<b>11) GAS TRAIN CONSISTING OF :-</b>		
<b>11.10</b>	Isolating ball valve on main line.	One
<b>11.12</b>	Gas filter	One
<b>11.13</b>	Pressure gauge each at upstream & down stream of the pressure regulator with push to read valves.	Two
<b>11.14</b>	Gas pressure regulator.	One
<b>11.15</b>	Safety shutoff valve #	One

<b>11.16</b>	Relief valve with isolation ball valve #	One
<b>11.17</b>	Low gas pressure switch	One
<b>11.18</b>	Solenoid Valves	Two
<b>11.19</b>	Solenoid valve on pilot line	One
# Applicable for High pressure gas train ( Gas inlet pressure 1-2 Bar)		

Technical Bid

(To be submitted along with the Technical Bid )

CHIEF EXECUTIVE OFFICER

USDS, UJJAIN

**Dear Sir,**

1	Name of the Co. /Unit	
2	Address of the Co/Unit	
3	Telephone Nos. (With STD Code)	
	Fax No. :	
	Email ID :	
4	Name of the CEO/Proprietor/Partner	
5	Name and designation of the authorized signatory of the Co./Unit	
6	Particulars of Registration Certificate issued by the competent authority	
	(Registration No. & Date)	
7	GST No.	
8	PAN No. (Permanent Account No.-Income Tax)	
9	Have your Co. /Unit or its sister concern ever been Black listed/debarred by any organisation or any milk union (Y/N)	
10	If Yes, when & Why? Give reason in details	
11	EMD details	
	Amount in Rs.	
	DD No.	

12 Details of the works executed during the last 5 years of the same nature:-

S. No.	Name of work	Cost of the work(Rs In Lacs)	Date of completion	Details of organization awarded the work etc.		
				Name of the organization	Work order No/date	Whether work completed (Yes/No)

**NOTE:- Tenderer should submit copies of 1. work order 2. completion certificate 3. Performance Certificate for work executed in last five (05) years.**

<b>Technical data to be submitted by Bidder</b>		
<b>Sr No.</b>		<b>Bidder's specifications</b>
<b>1) <u>PRESSURE PART ASSLY :-</u></b>		
<b>1.1</b>	Pressure part assembly consisting of the Full fusion welded shell consisting of wet back furnace and two sets of convection smoke tubes, hinged ceramic lined front doors and smoke chamber with soot cleaning door. One Manhole, Two head holes on the boiler shell to inspect the internal of the boiler. One access opening at the back of the IRC to inspect the internal of the furnace. Two fusible plugs are provided as an ultimate mechanical safety to prevent the boiler from over heating incase of very extra low water level in boiler.	
<b>2) <u>HEAVY OIL CUM GAS FIRED BURNER :-</u></b>		
<b>2</b>	Pressure jet spill return stepless modulation burner with the high voltage spark ignition/Pilot flame for burner lightup. Burner is suitable for firing heavy oil/ Natural gas one at a time. Pressure gauge at inlet & outlet with isolation valve & syphon for oil pressure sensing. Flame sensor is provided in the burner to detect the flame in auto mode operation.	
<b>3) <u>FUEL OIL PUMPING &amp; HEATING UNIT :-</u></b>		
<b>3.1</b>	* Indirect heating type steam cum electric heating tank. #	
<b>3.12</b>	* Fuel oil gear pump with motor. #	
<b>3.13</b>	* Isolating ball valve at fuel pump suction.#	
<b>3.14</b>	* Isolating ball valve at fuel pump outlet.#	
<b>3.15</b>	* Non-return valve at fuel pump bypass line.#	
<b>3.16</b>	* Pressure gauge with isolation valve for sensing oil pre heater tank pressure.	
<b>3.17</b>	* Pressure switch on oil pre heater tank to cut steam/Electric heating	
<b>3.18</b>	In case of high tank pressure.	
<b>3.19</b>	* Y-type strainer in oil line at oil pre heater outlet.	
<b>3.2</b>	* Steam trap with isolation & bypass valve at steam coil outlet.	
<b>3.21</b>	* Temperature element with thermowell for sensing fuel oil temperature.	
<b>3.22</b>	* Pneumatically operated ball valve at steam coil inlet.	
<p># Qty of these items will be one no. for single fuel pump option</p>		

<b>4) <u>AIR /OIL/GAS REGULATING ASSEMBLY:-</u></b>		<b>Bidder's specifications</b>
<b>4.1</b>	Damper assembly with step motor & cam linkages with oil regulating valve to control oil flow rate to the burner. Separate cam is provided for gas Proper support frame is provided to mount the Air regulating assembly.	
<b>5) <u>FORCED DRAFT COMBUSTION AIR FAN :-</u></b>		
<b>5.1</b>	Backward curved design Forced draft combustion air fan with the motor & flexible duct at the suction & discharge of the fan to prevent the other components from any vibration. Arrangement is provided to connect the Air regulating assembly at the suction of the fan.	
<b>6) <u>FEED WATER PUMPS:-</u></b>		
<b>6.1</b>	Highly efficient Centrifugal multi-stage, vertical feed water pumps with motor. Impellers & shaft of the pump are of stainless steel .	
<b>7) <u>CONTROL PANEL BOX ASSEMBLY :-</u></b>		
<b>a) <u>Panel box specification</u></b>		
<b>7.a.1</b>	Power cum control panel, free standing type confirming to IP 42 with MCB/MCCB. The panel is made out of 14 / 16 SWG CRCA sheets and painted with polyurethane paints / synthetic enamel / powder coated . The power & control section are physically isolated with partition plate. The power section is provided with a main incomer Isolating switch with MCCB. The required switch gears for all the feeders are housed in the power section. Burner management system along with necessary start stop button, auxiliary contactor, control circuit of all motors , indication lamps & hooter for the alarm are housed in the control section. isolated with partition plate. The power section is provided with a main incomer Isolating switch with MCCB. The required switch gears for all the feeders are housed in the power section. Burner management system	
<b>b) <u>Set of instruments mounted in the panel</u></b>		
<b>7.b.1</b>	Temp indicator & switch is provided in the control panel to indicate the fuel oil temp & for controlling the same within the set value. This switch gives the low oil temperature lamp indication , alarm & burner trip interlock.	
<b>7.b.2</b>	Temp indicator & switch is provided in the control panel to indicate the boiler stack temp . This switch gives high stack temp alarm , lamp indication & burner trip interlock.	
	Sequence controller for burner management system.	
<b>8) <u>FIELD MOUNTED INSTRUMENTS :-</u></b>		

<b>8.1</b>	Pressure switch for stepless modulation.	
<b>8.12</b>	Pressure switch for burner ON/OFF control.	
<b>8.13</b>	Temperature element for flue gas temperature	
<b>8.14</b>	Pressure switch to sense low combustion air pressure.	
<b>9) ACCESSORIES :-</b>		
<b>a) <u>Air ducting</u></b>		
<b>9.a.1</b>	Set of M.S ducting to connect the burner to F.D.Fan.	
<b>b) <u>Piping</u></b>		
<b>9.b.1</b>	Set of Natural gas piping from gas train to burner inlet	
<b>9.b.2</b>	Set of feed piping to connect feed water pumps to the boiler.	
<b>c) Set of valves &amp; fittings to be fit with the feed piping.</b>		
<b>9.c.1</b>	Stop valves on feed water line.	
<b>9.c.2</b>	Non-return valves on feed water line.	
<b>9.c.3</b>	Pressure gauges at the outlet of the pumps.	
<b>9.c.4</b>	Isolation valves for the pr gauges.	
<b>d) <u>Set of valves mountings &amp; fittings for the boiler</u></b>		
<b>9.d.1</b>	Main steam stop valve.	
<b>9.d.2</b>	Spring loaded single port safety valves.	
<b>9.d.3</b>	Air vent valve.	
<b>9.d.4</b>	Blow down valve.	
<b>9.d.5</b>	Main steam pressure gauge.	
<b>9.d.6</b>	Explosion door for protection against high flue gas pressure .	
<b>9.d.7</b>		
<b>9.d.8</b>	plain tubular gauge glasses along with inbuilt isolation and drain valves.	
<b>9.d.9</b>	Float operated magnetic water level controller,	
<b>9.d.10</b>	Isolation valves for Main steam pressure gauge , Inspector pr gauge & Isolation valve and drain valve for two float operated level controller.	
<b>9.d.11</b>	Reflex type gauge glasses along with inbuilt isolation and drain valves.	
<b>9.d.12</b>	Float operated magnetic water level controller,	
<b>9.d.13</b>	Isolation valves for Main steam pressure gauge , Inspector pr gauge & Isolation valve and drain valve for two float operated level controller.	
<b>e) <u>Structure</u></b>		
<b>9.e.1</b>	Set of ladder & catwalk to operate the valves & fittings mounted on the Boiler.	
<b>10) <u>FUEL OIL FILTER :-</u></b>		



<b>10.1</b>	Duplex type basket filter with 80 mesh filter element.	
<b>11) GAS TRAIN CONSISTING OF :-</b>		
<b>11.1</b>	Isolating ball valve on main line.	
<b>11.12</b>	Gas filter	
<b>11.13</b>	Pressure gauge each at upstream & down stream of the pressure regulator with push to read valves.	
<b>11.14</b>	Gas pressure regulator.	
<b>11.15</b>	Safety shutoff valve #	
<b>11.16</b>	Relief valve with isolation ball valve #	
<b>11.17</b>	Low gas pressure switch	
<b>11.18</b>	Solenoid Valves	
<b>11.19</b>	Solenoid valve on pilot line	
# Applicable for High pressure gas train ( Gas inlet pressure 1-2 Bar)		

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