| | | |
|---|---|---|
| NAME OF ITEM / WORK | : | **SUPPLY, ERECTION AND COMMISSIONING OF 8000 KG./HR. FURNACE OIL FIRED STEAM BOILER WITH CHIMNEY AND ACCESSORIES FOR SALEM DCMPU LTD.,** |
| TENDER REFERENCE NO | : | 1111/Proj.4/2022, Dated:28.02.2022 |

# PART - I
# TECHNICAL BID

THE TAMILNADU COOPERATIVE MILK PRODUCERS' FEDERATION LTD CHENNAI 600 035

Tender document issued to

M/s._____

Cost of Tender document remitted under receipt No. _____ Date _____

(or)

Tender downloaded from website on _____ at free of cost

The Dy. General Manager (Engg.),
TCMPF Ltd.,.

# TENDER INFORMATION

| | | |
|---|---|---|
| 1. Name and address of the Purchaser | : | The Dy. General Manager (Engg.),<br>Tamilnadu Cooperative Milk Producers' Federation Ltd.,<br>Head Office, Aavin Illam, 3-A, Pasumpon<br>Muthuramalinganar Salai, Nandanam, Chennai – 600 035.<br>E-Mail: aavindgmeng@yahoo.co.in |
| 2. Name and address of the User | | The General Manager,<br>Salem DCMPU Ltd., |
| 3. Name of the Item / Work | : | Supply, Erection and Commissioning of 8000 Kg./Hr. Furnace Oil Fired Steam Boiler with Chimney and Accessories for Salem DCMPU Ltd., |
| 4. Tender Reference Number | : | 1111/Proj.4/2022 |
| 5. Source of Fund | | DIDF Scheme |
| 6. Tender Estimated Value | : | Rs.375.00 Lakhs |
| 7. Earnest Money Deposit (EMD) | : | Rs.3,75,000.00 |
| 8. Cost of Tender Document | : | Rs.2,000/- + 18% GST and Rs.100/- extra by post either by cash or demand draft in favour of TCMPF Ltd. payable at Chennai drawn from any Indian Nationalized Bank / Scheduled Commercial Bank.<br>**Alternatively,** Tender documents can also be downloaded from the designated website at free of cost (i.e.) www.tenders.tn.gov.in and www.aavinmilk.com for submission of tender **by post (or) courier /** www.tntenders.gov.in for **e-submission.** |
| 9. Sale of tender documents | : | **From:** 07.04.2022 To 11.05.2022<br>**Time:** 11.00 AM To 3.00 PM |
| 10. Date of Pre-Bid meeting | : | **Date:** 20.04.2022<br>**Time:** 11.30 AM |
| 11. Last date and time for submission of the two part tender – both technical and commercial bids. | : | **Date:** 12.05.2022<br>**Time:** 2.00 PM |
| 12. Date and time of opening of Part I Technical Bid Document. | : | **Date:** 12.05.2022<br>**Time:** 2.15 PM |
| 13. Date and time of opening of Part II Financial Bid | : | Financial Bid will be normally opened within 60 days from the date of opening of Part I pre qualifications-technical bid. The date of opening of Financial Bid will be informed to the eligible tenderers who are found and declared as qualified as per Part I technical bid. |
| 14. Place of Sale of Tender Documents, Pre- Bid meeting & Part I Technical Bid and Part II Price Bid opening | : | The Dy. General Manager (Engg.), Head Office<br>Tamilnadu Cooperative Milk Producers' Federation Ltd.,<br>Aavin Illam, 3-A, Pasumpon Muthuramalinganar Salai,<br>Nandanam, Chennai – 600 035. |

# INDEX

## 1.0. TECHNICAL BID – CHECK LIST

**PREAMBLE OF TENDER:-**

**1.1.** The Dy. General Manager (Engg.), Head Office, TCMPF Ltd. invites Bids by way of **E-Submission** / **OFF Line** from eligible bidders on behalf of The General Manager, Salem DCMPU Ltd., by two cover system for Supply, Erection and Commissioning of 8000 Kg./Hr. Furnace Oil Fired Steam Boiler with Chimney and Accessories for Salem DCMPU Ltd.,

**1.2. BIDDER TO FILL IN THE CHECK LIST GIVEN BELOW:**

**(State YES / NO for each item)**

Kindly ensure compliance of the under-mentioned requirements, as per Tender Terms and Conditions.

1.3. The tender is offered for:

| S.N. | Name of the work | | Remarks |
|---|---|---|---|
| 1 | Whether two covers for each item have been was sealed separately as "Technical bid" & "Commercial bid" (whichever is applicable) and both the covers enclosed in a common overall envelope duly superscribed as "Tender for Supply, Erection and Commissioning of 8000 Kg./Hr. Furnace Oil Fired Steam Boiler with Chimney and Accessories for Salem DCMPU Ltd." | | Yes / No |
| 2. | Whether the EMD amount as detailed below is enclosed in the technical bid | | |
| **Item No.** | **Name** | **EMD amount** | |
| 1. | Supply, Erection and Commissioning of 8000 Kg./Hr. Furnace Oil Fired Steam Boiler with Chimney and Accessories for Salem DCMPU Ltd. | Rs.3,75,000.00 | Yes / No |
| 3. | If so, whether D.D. or Bank Guarantee is attached with the Tender offer - Part I / Tech.Bid | | Yes / No |
| 4. | If so, Details of D.D. or Bank Guarantee No. date, Bank on which drawn etc. may be furnished<br>D.D./BG No(s)……..<br>Dated…….<br>For Rs…… Bank Name and Branch ……. in favour of The Managing Director, TCMPF Ltd. payable at Chennai<br>For E-submission the Earnest Money Deposit specified above may also be paid through online in TN e-Procurement Portal and scanned copy of proof for payment of EMD (ie. e-payment receipt) has to be uploaded. | | Yes/No |
| 5. | If EMD exemption is sought for, whether necessary documentary proof/evidence such as EM Part – II as per MSMED Act 2006 for SSI Certificate / Udyog Aadhar enclosed in the technical bid for tenderers from the state and if from outside the state (Tamilnadu) whether NSIC certificate enclosed | | Yes / No |

SIGNATURE OF THE TENDERER WITH SEAL

| | | |
|---|---|---|
| 6. | Whether details of infrastructural facilities such as equipment / man-power / financial statement (FY – 2018-19, 2019-20 & 2020-21) details etc., are enclosed. | Yes/No |
| 7. | Whether details of past experience (i.e) Purchase order copy(s) for same capacity (or) above of Furnace Oil Fired Steam Boiler with Chimney | Yes/No |
| 8. | Whether satisfactory performance certificate from client(s) for the above such supply with features mentioned in the technical specification tendered are enclosed | Yes/No |
| 9. | If so, whether necessary supportive documents such as attested copies of Supply Order / Work order, delivery challans, enclosed. | Yes / No |
| 10. | Whether copies of attested GST Registration certificates enclosed | Yes / No |
| 11. | Whether copy of attested PAN card enclosed | Yes / No |
| 12. | Whether the Minutes of Pre-Bid meeting duly signed and sealed has been enclosed along with Technical Bid Part-I | Yes/No |
| 13. | Whether all the pages in the tender documents – Part I (Tech. Bid) and Part II (Commercial Bid) have been duly signed by authorized signatory | Yes / No |
| 14. | Whether the Commercial bid is filled in detail in the prescribed format for break-up, equipment-wise and for abstract | Yes/No |
| 15. | Whether these two sealed covers for Part - I "Technical Bid" and Part II – "Commercial Bid" – put in a larger cover duly superscribed, addressed and wax sealed at appropriate places. | Yes/No |

**Note:** Please ensure that all the relevant boxes are marked YES / NO against each column.

**Important Note:** Bidders must ensure that all the required documents indicated in the tender document are submitted without fail. Bids received without supporting documents for the various requirements mentioned in the tender document are liable to be rejected at the initial stage itself.

SIGNATURE OF THE TENDERER WITH SEAL

## 2. TWO PART TENDER APPLICATION

### TECHNICAL (PRE-QUALIFICATION) BID & PRICE BID APPLICATION

**From**

M/s.

**To**

The Dy. General Manager (Engg.),
TCMPF Ltd.,
Head Office, Aavin Illam, 3-A,
Pasumpon Muthuramalinganar Salai,
Nandanam, Chennai – 600 035.

Sir,

Sub: Two Part tender – Supply, Erection and Commissioning of 8000 Kg./Hr. Furnace Oil Fired Steam Boiler with Chimney and Accessories for Salem DCMPU Ltd. – Submission of Documents – Regarding.

<><><>

Having examined the two part tender documents consisting of Part I technical bid pertaining to pre-qualification and part II commercial bid with price quote, I/We hereby submit all the necessary documents and relevant information for bidding the above mentioned tender.

The application is made by me/us on behalf of ……. in the capacity of ……. duly authorized to submit this two part tender offer.

Necessary evidence admissible in law in respect of authority assigned to me on behalf of the bidding firm is herewith attached.

I submit the documents herewith taking into consideration of all the instructions, terms and conditions in the detailed two part tender notice.

I/We understand that The Dy. General Manager (Engg.), TCMPF Ltd., Chennai reserves the right to reject any tender offer fully or partly without assigning any reasons thereof.

I/We hereby agree to hold the tender offer valid for acceptance for a period of 120 days from the date of opening of Part – I – Technical bid.

Signature of the Applicant
Including title capacity

(NAME IN BLOCK LETTERS)

Enclosures:

1. Evidence of authority to sign
2. Latest brochures if any
3. Part I pre-qualification – Technical bid in separate sealed cover
4. Part II commercial bid with price quote in separate sealed cover.

## 3. INSTRUCTIONS TO THE TENDERERS

This two part tender document consists of:
Part I – Technical Bid for Pre-Qualifying
Part II – Commercial bid for price-quote schedule.

3.1 Read all the terms and conditions of the two part tender before to start filling up.

3.2 The tenderers are to submit the **original set** of the two part tender (both Part – I – Technical Bid and Part II Commercial Bid) duly filled in, attach necessary documents and are advised to retain the duplicate set of documents for records.

3.3 The part I – Technical Bid for Pre-qualification consisting of pages……and the Part II – Commercial bid for price-quote schedule consisting of pages……. should be submitted in two different covers duly superscribed as "Tender for the Supply, Erection and Commissioning of 8000 Kg./Hr. Furnace Oil Fired Steam Boiler with Chimney and Accessories for Salem DCMPU Ltd." and again put both the sealed technical bid cover and commercial bid cover in a larger wax sealed cover duly superscribed as "Supply, Erection and Commissioning of 8000 Kg./Hr. Furnace Oil Fired Steam Boiler with Chimney and Accessories for Salem DCMPU Ltd." and addressed to "The Dy. General Manager (Engg.), TCMPF Ltd, Head Office, Aavin Illam, 3-A, Pasumpon Muthuramalinganar Salai, Nandanam, Chennai – 600 035." either in person or by post so as to reach on or before the time and date specified. Tenders received after the specified date and time shall be summarily rejected.

3.4 The tenderer shall submit tenders in person or by post or courier or by electronic submission through the designated website www.tntenders.gov.in as provided in the TNTT Rule 18 (1) and 18 (3).

3.5 a).If the envelope is not sealed and super-scribed as instructed, no responsibility will be assumed for any misplacement of tender or premature opening of the envelope or parcel.

b). Telegraphic / FAX Tenders will not be accepted.

c). E-Tendering facility is available for this tender.

3.6 The quantities mentioned in the tender document are approximate. The tender accepting authority shall be permitted to vary the quantities finally ordered and execute the work through the contractor to the extent of 25% (Twenty five percent) either way of the requirements.

3.7 **Go through the check slip given and ensure compliance of the terms and conditions.**

I agree to abide by the above instructions

SIGNATURE OF THE TENDERER

3.8 The tenderer is specifically informed that all the pages in both Part I – Technical Bid and part II – Commercial Bid should be signed at the bottom of each page without any omission by the authorized signatory with name and seal of the firm.

3.9 The signatory of the tender should indicate his/their status in which he/they have signed and submit necessary documentary proof admissible in law in respect of such authority assigned to him/them by the firm.

3.10 If the Qualification application is made by a FIRM in partnership, it shall be signed by all the partners of the firm with their full names and current address or by a partner authorized by the firm (either as per Articles of the Deed of Partnership / by power of attorney)- for signing in Tenders, Agreements etc. In which case, certified copy of the registered deed of Partnership along with the current address of all the partners and a certified photocopy of the Registered Power of Attorney issued in favour of the Signatory, should be produced.

3.11 If the Qualification Application is made by a Limited Company or a Limited Corporation, it shall be signed by a duly authorized person holding the Power of attorney for signing the application, in which case, the certified copy of the power of attorney shall accompany the qualification application. Such limited company or corporation shall also furnish satisfactory evidence of its' existence along with the Qualification schedule.

3.12 **The tenderer who are downloading the document from the web site are instructed to check the web site for corrigendum after the date of pre-bid meeting, for any amendments (pre-bid – minutes) (if any issued) They are instructed to down load the above amendments and enclose it along with the technical bid document duly authenticating while submitting without fail. Failure to submit the pre-bid minutes will lead to rejection of the tender offer.**

3.13 The tenderer shall provide Raw material test certificates, Manufacturer Test Certificates and also arrange to provide instrument for identification of material to conform as per technical specification during the inspection.

3.14 Detailed evaluation done on the basis of the Documents / Records / Evidences / Certificates produced by the Applicant in the Technical Bid.

I agree to abide by the above instructions

SIGNATURE OF THE TENDERER

## 4.0.GENERAL TERMS & CONDITIONS

4.1. Tender under sealed **two part tender system** (i.e.) Technical Bid (Prequalification) & Price Bid (item rate tenders) are invited for and on behalf of The General Manager, Salem DCMPU Ltd., by The Dy. General Manager (Engg.), Head Office, TCMPF Ltd. for the Supply, Erection and Commissioning of 8000 Kg./Hr. Furnace Oil Fired Steam Boiler with Chimney and Accessories for Salem DCMPU Ltd.

4.2

4.2.1.The tenderer should be manufacturer / supplier of Furnace Oil Fired Steam Boiler with Chimney

4.2.2. The tenderer should have previous experience in having supplied and commissioned same capacity (or) above of Furnace Oil Fired Steam Boiler with Chimney, in India either to any cooperative institution or reputed dairies / firms.

4.2.3. The tenderer should have supplied and commissioned same capacity (or) above of Furnace Oil Fired Steam Boiler with Chimney, for which tender called for, and enclose copies of purchase order / supply order within a period of 5 years.

4.2.4.The performance certificate for above such supply for which Purchase Order / Supply order furnished as per 4.2.5 from the reputed purchaser shall be enclosed in the technical bid part – I. The performance certificate received from purchaser / client should be of within a period of 3 years.

4.2.5.The Tenderer should have minimum experience of 5 Years in the manufacturing and supplying of Furnace Oil Fired Steam Boiler with Chimney. Copies of Registration of firms with list of activities/GST registration certificate etc. should be enclosed as supporting document.

4.2.6.If the tenderer is an authorized dealer / supplier of original equipment manufacturer (OEM), the tenderer shall furnish the authorization letter from the original equipment manufacturer (OEM) for supply of Furnace Oil Fired Steam Boiler with Chimney. The original equipment manufacturer (OEM) can authorize only one dealer / supplier

4.2.7.If the tenderer is an authorized dealer / supplier for Furnace Oil Fired Steam Boiler with Chimney then the experience of the manufacturer for supply of Furnace Oil Fired Steam Boiler with Chimney, their performance shall be taken for evaluation of technical bids, even if the supply has been made either by the manufacturer directly or through other agencies.

Noted and agreed to the above

SIGNATURE OF THE TENDERER

4.3.

4.3.1 PART I TECHNICAL BID, wherein the pre-qualification, based on various factors such as supply, capacity etc., suitability and eligibility of the tenderer will be evaluated, considered and decided prior to opening of commercial Bids under PART II of the tender.

4.3.2. THE PART I technical bid shall be opened on **12.05.2022 at 02.15 PM**. in the presence of the tenderers or their authorized representative who opt to be present during the opening.

4.4.

4.4.1. The PART II Commercial Bid of the tenderers who do not satisfy any/all the terms and conditions specifically so mentioned under PART I technical, shall not be considered and shall not be opened as non responsive.

4.4.2. PART II Commercial Bid, wherein the rates tendered by those who qualify for and are selected as per the terms and conditions prescribed in PART I TECHNICAL BID only will be considered and decided for the award of the contract for the Supply, Erection and Commissioning of 8000 Kg./Hr. Furnace Oil Fired Steam Boiler with Chimney and Accessories for Salem DCMPU Ltd.

4.5. The Part II commercial bids shall normally be opened within 60 days from the date of opening of the Part I pre-qualification/ technical bid in the presence of tenderers or their authorized representatives who opt to be present. The date of such opening of commercial bid will be informed separately to those who qualify in the PART I technical bid.

4.6. The tenderer is specifically informed that all the pages in both Part I – Technical Bid and Part II – Commercial Bid should be signed at the bottom of each page without any omission by the authorized signatory with name and seal of the firm.

4.7. The tender forms are not transferable or assignable.

4.8. The signatory of the tender should indicate his/their status in which he/they have signed and submit necessary documentary proof admissible in law in respect of such authority assigned to him/them by the firm. If the tender opening day is declared as a holiday, the tenders shall be received and opened immediately on the next working day at the same time and place.

Noted and agreed to the above

SIGNATURE OF THE TENDERER

**4.9 E.M.D. PAYABLE:**

4.9.1 Tender must be accompanied with the prescribed amount of EMD along with tender, **if e-tender, the EMD DD should be dropped in the tender box before closure time or may be paid through online in TN e-Procurement Portal and scanned copy of proof for payment of EMD (ie. e-payment receipt) has to be uploaded.**

4.9.2 EMD Payable is as detailed below:-

| Sl. No. | Name of equipment | Qty. | EMD amount |
|---|---|---|---|
| 1 | Supply, Erection and Commissioning of 8000 Kg./Hr. Furnace Oil Fired Steam Boiler with Chimney and Accessories for Salem DCMPU Ltd. | 1 Job | **Rs.3,75,000.00** |

The EMD amount to be drawn by means of the **Demand Draft or it shall be submitted by means of Bank Guarantee for the period of 12 months and extendable as and when required** from any Indian Nationalised Bank or Scheduled Bank drawn in favour of the "Managing Director, TCMPF Limited," Payable at Chennai. **IT SHALL BE ENCLOSED WITH THE PART I TECHNICAL BID ONLY. For e-Submission the EMD amount paid through online in the TN e-Procurement Portal.** ***No other form of remittance shall be accepted.***

**4.9.3**.SSI Units claiming exemption from the payment of EMD,

1. Shall enclose a copy of EM Part II as per MSMED Act 2006 for SSI Certificate obtained from the General Manager, District Industries Centre / Udyog Aadhar, in respect of items manufactured by them for which tenders have been called for alone will be granted exemption from payment of EMD.
2. In respect of SSI units located outside the state (Tamilnadu), such of these units registered with NSIC in respect of items manufactured by them for which tenders have been called for alone will be granted exemption from payment of EMD.

**4.9.4.Tenders not accompanied with Demand Draft or Bank Guarantee or Online Payment towards the prescribed EMD or the relevant documentary proof for the exemption thereon shall be summarily rejected.**

4.9.5. The EMD remitted by the tenderer shall be forfeited in full.

1).If the tenderer submit fresh offer / revises offer in case of any omission subsequently after opening.

Noted and agreed to the above

SIGNATURE OF THE TENDERER

2).If withdraws his tender or backs at before the expiry of validity period or after acceptance.

3).If revises any of the terms quoted during validity period.

**4.9.6. MODIFICATION AND WITHDRAWAL OF BIDS**

4.9.6.1. No Tenderer shall be allowed to withdraw the tenders after submitting the tender.

4.9.6.2 A Tenderer may submit a modified Tender before the last date for receipt of tender: Provided that where more than one Tender is submitted by the same Tenderer, the lowest eligible financial tender shall be considered for evaluation.

4.9.6.3 Each bidder's modification notice shall be prepared, sealed, marked and delivered with the outer and inner envelops additionally marked MODIFICATION as appropriate.

4.9.6.4 No bid may be modified after the deadline for submission of Bids.

4.9.7 Bidders shall submit offers that comply with the requirements of the bidding documents, as indicated in the technical specifications. **"Alternatives will not be considered"**.

4.9.8 Communication to the unsuccessful Bidders will be sent after the communication sent to the successful Bidder. Within 90 (Ninety) days from the date of the receipt of refund vouchers duly stamped and signed from the unsuccessful Bidder, refund of Earnest Money Deposit will be made.

**4.10.PAN/GST REGISTRATION/CLEARANCE CERTIFICATE:**

4.10.1.Tenderers shall furnish attested Photostat copies of valid GST Registration Certificates along with the tender technical bid Part-I.

4.10.2.Tenderers shall furnish attested Photostat copy of PAN Registration Certificates along with the tender technical bid Part-I.

4.10.3.Tenderers have to furnish the latest valid S.T. Clearance Certificate before issuance of final orders.

**4.11. ENCLOSURES:** The tenderer should submit the following documents **duly attested by Notary Public** along with the Part – I technical bid.

1). Purchase orders as supportive documents to show the past supply having supplied to any of the reputed dairies / firm(s) /coop(s) in India.

2). Satisfactory performance certificate from client(s) for the above equipments tendered.

Noted and agreed to the above

SIGNATURE OF THE TENDERER

3). If the tenderer is an authorized suppliers of a manufacturer, the tenderer shall furnish the authorization letter from the manufacturer for supply of Furnace Oil Fired Steam Boiler with Chimney

4). Photostat copies of valid GST Registration Certificate, PAN Certificate.

5). Infrastructure facilities – Capacity of Firm / Supplier:-

(i). Structure and Organization with details of Technical Personnel etc. – Annexure – A

(ii). Financial Capability Statement – Annexure – B

(iii). Building, Plant and Equipments

(iv). Details of Abandonment of work Litigation / debarring done – Annexure – C

(v). Affidavit – Annexure – D

(vi). Credit Facilities – Bank Certificate – Annexure – E

**4.12. SECURITY DEPOSIT**

The successful tenderers would be required to sign an agreement and furnish a Security Deposit of 5% of the order value, drawn by means of Demand Draft or it shall be submitted by means of Bank Guarantee for the period of 18 months and extendable as and when required from any Indian Nationalised Bank or Scheduled Bank drawn in favour of "Managing Director, TCMPF Ltd" payable at Chennai within 15 days of notifying them. The EMD already paid along with tender shall be adjusted against SD to be paid by the successful tenderer.

No exemption will be given from payment of Security deposit under any circumstances as per TNTT Act and the same should be remitted by above means. Any other form of remittance will not be accepted.

4.12.1.The security deposit will be refunded only after the expiry of 6 months from the date of satisfactory completion of the contract satisfactorily complying to the specification of the equipment to take care of the workmanship of the agency.

**4.13. AGREEMENT:**

The successful tenderer has to execute an agreement on Rs.100/- non-judicial stamp paper incorporating the terms and conditions of the contract and the specification within 15 days from the date of intimation of the acceptance of the tender. In case of default of either of the conditions (i.e) remitting the security deposit or execution of the

Noted and agreed to the above

SIGNATURE OF THE TENDERER

agreement within the time allowed, the EMD paid is likely to be forfeited by the Federation.

4.13.1. If the contractor fails to execute the contract satisfactorily at the tendered rate, the security deposit will be forfeited by the Federation.

4.13.2. If the Federation incurs any loss / additional expenditure due to the negligence of the contractor in connection with the work during the period of contract, the same shall be recovered together with all charges and expenses from the contractor.

4.13.3. The breakages or damages, if any, caused by the contractor to the property of the Federation, the cost will be recovered from the contractor.

4.13.4. **RATES AND PRICE:** This is a fixed price contract. Price adjustment clause (to account for raise or fall in the money value / statutory taxes during the contract period) is not operatable for this contract. However any variation in the statutory levies and Taxes by State Government / Central Government shall be effected on the end price to the benefit of either the contractor or Federation as the case it may be.

4.13.5. No interest shall be paid on Earnest Money Deposit/Security Deposit.

4.13.6. The Agreement in Rs.100/- non-judicial stamp paper shall be signed and returned within 15 days of receipt of the Design, Supply, Erection, Installation, Testing and Commissioning order along with the D.D. for Security Deposit.

**4.14. DELIVERY SCHEDULE:-**

| | | |
|---|---|---|
| 4.14.1. Supply | : | 6 – 8 months from the date of receipt of purchase order (or) 1 month from the readiness of site whichever is later |
| 4.14.2. Erection, Installation, Testing and Commissioning | : | 2 – 4 months from the readiness of site (or) receipt of Materials at site whichever is later. |

**4.15. PAYMENT TERMS:**

**4.15.1. SUPPLY:**

a). If the single order of any successful tenderers is over Rs.1 crore., an advance payment of 10% of the basic value of the order will be considered against irrevocable bank guarantee for a period till completion of entire

Noted and agreed to the above

SIGNATURE OF THE TENDERER

supply of Furnace Oil Fired Steam Boiler with Chimney and such advance shall be recovered with interest applicable at the time of recovery from the bills payable at the time of release of 70% basic price + taxes and other charges.

**(OR)**

70% of basic price + taxes and other charges shall be released on receipt of the Furnace Oil Fired Steam Boiler with Chimney (Equipment's wise) in good condition at site.

b). The remaining 30% payment shall be released after the Erection and satisfactory commissioning of the Furnace Oil Fired Steam Boiler with Chimney at site.

**(OR)**

If the site is not ready due to unavoidable circumstances for carrying out the Erection, Installation, Testing and Commissioning of the equipments within 3 months period, then the balance 30% payment on supply will be considered for release on submission of irrevocable Bank Guarantee for a value equal to 30% of supply order value, for one year and extendable for another one more year with an agreement on a non-judicial stamp paper to a value of Rs.100/- (Rupees hundred only) for execution of project subsequently without altering the Erection, Installation, Testing and Commissioning charges.

**4.15.2. ERECTION, INSTALLATION, TESTING AND COMMISSIONING:**

a). 70% of the Erection, Installation, Testing and Commissioning charges shall be released on satisfactory completion of the Erection, Installation, Testing and Commissioning of the Furnace Oil Fired Steam Boiler with Chimney

b). Balance 30% of Erection, Installation, Testing and Commissioning charges shall be released after 3 months from the date of satisfactory commissioning and performance of the Furnace Oil Fired Steam Boiler with Chimney.

**N.B: NO OTHER TERMS OF PAYMENT WILL BE ENTERTAINED.**

**PENALTY CLAUSE:**

4.15.3. If the tenderer / Contractor fails in his due performance of the contract within the time fixed in the schedule accompanying the order or extension of time granted:-

(a) Liquidated damages will be levied at 1% per month for the number of days that the supply / work has been delayed for the contract value less than Rs.50,00,000/- (Rupees fifty lakhs) as below subject to:-

Noted and agreed to the above

SIGNATURE OF THE TENDERER

(i). The Liquidated Damages be imposed on the value of undelivered / delayed supply of materials / machineries instead of total value of contract, if the tender is for the Design, Supply, Erection, Installation, Testing and Commissioning of two or more number of machineries and where the materials / machineries can be put into use separately.

**(OR)**

(ii). The Liquidated Damages be imposed on the total value of the contract for delayed supply / completion of material / work as per the milestone fixed in the tender (i.e) turnkey job inclusive of Civil work, supply of Mechanical/Electrical item, Erection etc., since the machineries partly supplied could not be put into operation and affect the functioning of system and other accessories as per plan.

(b). The Liquidated Damages be imposed for the delayed supply / Erection, Installation, Testing and commissioning at 0.5% per month, if the contract value is more than Rs.50.00 Lakhs (Rupees fifty lakhs). The maximum deduction is limited to 5% on LD.

4.15.4. Time being the essence of contract no variation shall be permitted in the delivery time as prescribed in the delivery schedule. If the tenderer fails to supply and execute the work in full or part of the order as per the delivery schedule, the Federation shall reserve the right to cancel the order besides forfeiture of Security Deposit.

4.15.5. Notwithstanding anything contained in the tender schedule, no obligation rests on the Federation to accept the lowest tender and the Federation shall also have the right to accept or reject any or all the tenders fully or partly without assigning any reasons.

4.15.6. For violation of any of the terms and conditions of the contract, the Federation reserves the right to terminate the contract, with or without notice as applicable.

4.15.7. On termination of contract, the Security Deposit is liable to be forfeited and any of the resultant loss beyond Security Deposit will be recovered from the contractor by legal means apart from forfeiture of any amount due to the contractor.

4.15.8. (a). If the tenderer defaulted in any of the previous tenders to execute agreement or to pay Security Deposit or to supply ordered quantity

Noted and agreed to the above

SIGNATURE OF THE TENDERER

either in part or full will not be eligible from participating in this tender.

(b). If the successful tenderer either in federation TCMPF or in the DCMPU defaulted to execute agreement or to pay Security Deposit or to supply ordered quantity either in part or full shall be debarred from participating in the subsequent tenders for a period of 3 years.

**4.16. <u>WARRANTY:</u>**

A warranty certificate shall be furnished on the workmanship, parts and performance of the Furnace Oil Fired Steam Boiler with Chimney for a period of 18 months from the date of supply or 12 months from the date of satisfactory commissioning whichever is later. If any defects are noticed in the equipments during the warranty period the same should be rectified at site at free of cost and charges.

**4.17. <u>FORCE MAJEURE:</u>**

Failure or delay in the part of tenderer for supply due to force majeure causes enumerated here under shall be considered, provided the supplier produces documentary evidence.

a. Any cause which is beyond the reasonable control of the tenderer.
b. Natural phenomena, such as floods, drought, earthquakes and epidemics.
c. Act of any Govt. Authority, domestic or foreign, such as wars declared or undeclared quarantines, embargoes licensing control on production or distribution restrictions.
d. Accident and disruptions such as fire, explosion, increase in power cut with respect to date of tender opening etc.,
e. Strikes, slow down and lockouts.

The cause of force majeure condition will be taken into consideration only if the supplier notifies within 30 days from the occurrence of such eventualities. The purchaser shall verify the facts and grant such extension as the facts justify. For extension due to force majeure conditions, the supplier shall submit his representation with documentary evidence for scrutiny by the purchaser and decision of the purchaser shall be binding on the time.

Noted and agreed to the above

SIGNATURE OF THE TENDERER

**4.18. DISPUTES AND ARBITRATION:**

In case of disputes arising out of this tender, an arbitrator as mutually acceptable to the tenderer and Federation will be appointed by the Managing Director, TCMPF Limited. The arbitrator's decision shall be final, conclusive and binding on both the parties.

**4.19. LEGAL JURISDICTION**

In case if either party to the tender is aggrieved by the award of the arbitrator so appointed as per clause 4.18 or otherwise, they can appeal to Court of Deputy Registrar (Dairying), Thiruvallur. The legal jurisdiction will be only Deputy Registrar (Dairying), Thiruvallur Court.

**4.20. PERFORMANCE GUARANTEE:**

If the value of supply order is Rs.50 lakhs or more, the contractor shall provide a performance guarantee at the time of getting 70% payment for the 10% of the supply order value of the Furnace Oil Fired Steam Boiler with Chimney ordered as Bank Guarantee from a Nationalized Bank / Scheduled Banks for a period of one year and extendable to one more year if needed.

**4.21. INSPECTION:**

After issue of purchase order to L1 Firm, the material inspection will be conducted at Supplier's site and Purchaser's by TCMPF Ltd., / Third Party agency as the case it may be.

Noted and agreed to the above

SIGNATURE OF THE TENDERER

## 5.0. PRE QUALIFICATION CRITERIA – TECHNICAL BID (PART-I)

The pre-qualification tender/PART-I technical bid will contain the under mentioned aspects pertaining to the prospective suppliers about their suitability, capacity, financial status, antecedents, past performance etc. The conditions are:-

**5.1. Tenders not accompanied with Demand Draft or Bank Guarantee or Online Payment towards the prescribed EMD or the relevant documentary proof for the exemption thereon shall be summarily rejected**

5.1.1. The tenderer should be manufacturer / supplier of Furnace Oil Fired Steam Boiler with Chimney

5.2. The tenderer should have previous experience in having supplied and commissioned same capacity (or) above of Furnace Oil Fired Steam Boiler with Chimney, in India either to any cooperative institution or reputed dairies / firms.

5.3. The tenderer should have supplied and commissioned same capacity (or) above of Furnace Oil Fired Steam Boiler with Chimney, for which tender called for, and enclose copies of purchase order / supply order within a period of 5 years.

5.4. The performance certificate for above such supply for which Purchase Order / Supply order furnished as per 5.3 from the reputed purchaser shall be enclosed in the technical bid part – I. The performance certificate received from purchaser / client should be of within a period of 3 years.

5.5. The Tenderer should have minimum experience of 5 Years in the manufacturing and supplying of Furnace Oil Fired Steam Boiler with Chimney. Copies of Registration of firms with list of activities/GST registration certificate etc. should be enclosed as supporting document

5.6. If the tenderer is an authorized dealer / supplier of original equipment manufacturer (OEM), the tenderer shall furnish the authorization letter from the original equipment manufacturer (OEM) for supply of Furnace Oil Fired Steam Boiler with Chimney. The original equipment manufacturer (OEM) can authorize only one dealer / supplier.

5.7. If the tenderer is an authorized dealer / supplier for Furnace Oil Fired Steam Boiler with Chimney, then the experience of the manufacturer for supply of Furnace Oil Fired Steam Boiler with Chimney, their performance shall be taken for evaluation of technical bids, even if the supply has been made either by the manufacturer directly or through other agencies.

**5.8. The tenderer who are downloading the document from the web site are instructed to check the web site for corrigendum after the date**

Noted and agreed to the above

SIGNATURE OF THE TENDERER

**of pre-bid meeting, for any amendments (pre-bid – minutes) (if any issued) They are instructed to down load the above amendments and enclose it along with the technical bid document duly authenticating while submitting without fail. Failure to submit the pre-bid minutes will lead to rejection of the tender offer.**

5.9. **FINANCIAL:** The tenderer shall have ***average annual sales turn-over for the last three financial years (2018-19, 2019-20 & 2020-21) equal to the tender estimated value and minimum annual sales turn-over in each of the last three financial years (2018-19, 2019-20 & 2020-21) shall not be less than 50% of the tender estimated value***.

**5.10. VALIDITY OF PRICE TENDER:**

a). The tender offer shall be kept for acceptance for a period of 120 days from the date of opening of Part – I Technical bid. The offers with lower validity period are liable for rejection.

b). Further the tenderer shall agree to extend the validity of the bids without altering the substance and prices of their bid for further period, if any required by Federation (i.e) The Price Bid shall be valid for a period of at least 90 days (Ninety Days) from the date, notified for opening of Price Bid.

**5.11. DEVIATION:**

a). The offers of the tenderers with deviations on technical / commercial terms of the tender will be rejected.

b). No alternate offer will be accepted.

5.12. Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

a). Made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or

b). Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.; and/or

c). Participated in the previous bidding for the same work and had quoted unreasonably high bid prices and could not furnish rational justification to the employer.

Noted and agreed to the above

SIGNATURE OF THE TENDERER

**Annexure – A**

**STRUCTURE AND ORGANISATION**

| | | | |
|---|---|---|---|
| 1 | Name of the Applicant | : | |
| 2 | Status | : | |
| | Individual contractor | : | |
| | Sole Proprietary Firm | : | |
| | Firm in Partnership | : | |
| | Private Limited Company | : | |
| | Public Limited Company | : | |
| 3 | Head Office/Registered office address with phone / Telex / Fax Number | : | |
| 4 | Contact Person Name<br>Address<br>Mobile No<br>Email Address | : | |
| 5 | Regional Office address with Phone / Telex / Fax Number | : | |
| 6 | Local office (if any) address with Phone / Telex / Fax Number | : | |
| 7 | Field of activity of the Applicant as per deed of Partnership / Memorandum of Association / Articles of associates (Civil) Engineering Contractor / General Engineering Contractor / Electrical Items - Engineering Contractor etc, should be specified.) | : | |
| 8 | Country and year of incorporation | : | |
| 9 | Main line of Business | : | |
| 10 | Name, position, status, capacity etc, of the Key personnel/ directors of the company (Attach organization chart showing the structure of the company / firm) | : | |
| 11 | Name, capacity and address of the signatory who has Signed the Qualification Application. Attested copy of authorization issued (either by power of attorney or as per articles of Partnership Deed / Memorandum of Association) in favour of the signatory to sign the qualification Application price Tender/ Agreement should be appended. | : | |

SIGNATURE OF THE TENDERER WITH SEAL

**Annexure – B**
**FINANCIAL CAPABILITY**
**(Please Annex self attested copies)**

| | | | | | |
|---|---|---|---|---|---|
| 1 | Name and address of the Applicant | : | | | |
| 2 | Income Tax Permanent Account No. C.I. H. No. | : | | | |
| 3 | GST Registration No. | : | | | |
| 4 | Annual turn over as per audited statement of account duly certified by the Chartered Accountant during the preceding Three years (Attach attested copy of balance sheets) | : | TAX Year | Figures | Words |
| | | : | 2018-19 | | |
| | | : | 2019-20 | | |
| | | : | 2020-21 | | |
| 5 | Financial Position | : | | | |
| | I. Cash in hand | : | | | |
| | II. Cash in Bank | : | | | |
| | III. Current Assets | : | | | |
| | IV. Current Liabilities | : | | | |
| | V. Working Capital | : | | | |
| | VI. Net worth | : | | | |
| 6 | Outstanding value of works already committed and in progress and time left for completion. (Details for each work to be furnished separately) | : | | | |
| 7 | Amount available in capital Account | : | | | |
| | I. Paid up share capital of (Partners or Share holders) | : | | | |
| | II. Called up and subscribed share capital | : | | | |
| | III. Reserves under capital account | : | | | |
| | IV. Surplus under capital account | : | | | |

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| | | | | | |
|---|---|---|---|---|---|
| 8 | Net profit before tax during the proceeding three years | : | TAX Year | Figures | Words |
| | | : | 2018-19 | | |
| | | : | 2019-20 | | |
| | | : | 2020-21 | | |
| 9 | Applicant's financial arrangements. | : | | | |
| | (a) Own resources | : | | | |
| | (b) Bank credits/ Over Draft | : | | | |
| | (c) Other source (Specify the source) | : | | | |

SIGNATURE OF THE TENDERER WITH SEAL

**Annexure – C**

**INFORMATION REGARDING CURRENT LITIGATION / DEBARRING / EXPELLING OF APPLICANT OR ABANDONMENT OF WORK BY THE APPLICANT**

1. (a) Is the Applicant currently involved in any Arbitration / litigation relating to any contract works Yes/No

   (b) If Yes, Details thereon

2. (a) Has the Applicant or any of it's constituent partners been Debarred/Expelled by any agency during the last Three years Yes/No

   (b) If yes, Details thereon

3. (a) Has the Applicant or any of it's constituent Partners failed to complete, any contract work during the past Three years. Yes/No

   (b) If yes, give details thereon

**Dated Signature of Applicant with seal**

**Note:** It any information in this Annexure is found to be incorrect or concealed, the Qualification Application will be summarily rejected & price tender will not be opened.

**Annexure – D**
**AFFIDAVIT**

**(To be furnished in a Twenty Rupees Non-Judicial Stamp Paper duly Certified by Notary Public)**

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 it's constituent partners have abandoned any work/works of similar nature and magnitude in India, during the Last Three years.

3). 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, during the last Three Years.

4). 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 Dy. General Manager (Engg.), TCMPF Ltd., Head Office, Aavin Illam, 3-A, Pasumpon Muthuramalinganar Salai, Nandanam, Chennai – 600 035 to verify the statement made by me/us or to assess my/our competence and general reputation.

5). I/We the undersigned, understand(s) that further qualifying information / clarifications on the statement made by me / us may be requested by The Dy. General Manager (Engg.), TCMPF Ltd., Head Office, Aavin Illam, 3-A, Pasumpon Muthuramalinganar Salai, Nandanam, Chennai – 600 035. and agree(s) to furnish such information/ clarification within SEVEN Days from the date of receipt of such request from The Dy. General Manager (Engg.), Aavin Illam, Head Office, 3-A, Pasumpon Muthuramalinganar Salai, Nandanam, Chennai – 600 035.

**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 above named deponent has understood the contents well and solemnly and sincerely declared and affirmed by the deponent in my presence at……and signed before me on this day of ……. (Seal).

**(Signature of the Notary Public)**

**Annexure – E**

**SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CREDIT FACILITIES**

**BANK CERTIFICATE**

This is to certify that M/s …… is a reputed company with a good financial standing.

If the contract for the work, namely, _____ is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs……. to meet their working capital requirements for executing the above contract.

Signature of Senior Bank Manager …….

Name of the senior Bank Manager …….

Address of the Bank ……..

Stamp of the Bank

**Note: Certificate should be on the letter head of the bank.**

## 6.0 EVALUATION AND COMPARISON OF THE TENDER OFFERS

6.1. The tenders will be evaluated strictly as per the Tamilnadu Transparency in Tenders Act 1998 and the Tamilnadu Transparency in Tenders Rules 2000 and amendments made thereon in the Act & Rules by the Government.

6.2. The tender offers received will be examined to determine whether they are in complete shape, all required data's have been furnished, properly signed and generally in order and confirms to all the terms and conditions of the specification without any deviation.

6.3. For the purpose of evaluation of tender offers, the following factors will be taken into account for arriving the evaluation price.

a). The quoted price will be corrected to arithmetical errors.

b). In case of discrepancy between the price quoted in words and figures, lower of the two shall be considered.

c). The evaluation of offer will be computed by taking into account Design, Supply, Erection, Installation, Testing and Commissioning put together.

6.4 Bidders should quote their rates both in figures and in words for each item per unit and amount for each item of work for full quantity. Grand total of the whole contract should be furnished without fail in the Price Quote Schedule of Price Bid.

6.5 The bidder shall fill in rates and prices and line item total (both in figures and words) for all the items of the works described along with total bid price (both in figures and words). Items for which no rate or price is entered by the bidder will not be paid for by the purchaser when executed.

6.6 The evaluation for L1 shall be on total end price of all items.

Noted and agreed to the above

SIGNATURE OF THE TENDERER

## 7.0.TECHNICAL SPECIFICATION FOR SUPPLY, ERECTION, TESTING AND COMMISSIONING OF 8000 KG./HR. FURNACE OIL FIRED STEAM BOILER WITH CHIMNEY AND ACCESSORIES

**1.0.Functional Requirement**:

Supply, Erection and Commissioning of 8000kgs/hr oil fired steam boiler with chimney and its accessories

**1.1.General Description**:

The fully automatic oil fired package boiler would be required to generate dry saturated steam for use in a variety of dairy processes. Dryness of steam should not be less than 98%. The demand for steam would fluctuate considerably depending upon processes.

**1.2.Capacity and working Pressure:**

| | | |
|---|---|---|
| 1.2.1. Capacity | - | 8000 Kgs./Hr. FROM & AT 100°C |
| 1.2.2. Designed Pressure | - | 21 Kg./Sq. cm. |
| 1.2.3 Operating Pressure | - | 18-19 Kg./Sq.cm. |
| 1.2.4 Safety valve set pressure | - | 21 Kg./Sq. cm. |

**2.0 Design and Requirements:**

**2.1. Conformity with regulation:**

a) All materials of construction, standards of fabrication, quality control, test procedures, components and operating safe guards must comply with the latest Indian Boiler Regulations.
b) The Electrical components and installation must comply with the Indian Electricity Regulations.
c) Evidence of conformity and test certificate will be required to be furnished to the Salem District co-operative Limited, Salem.

**2.2. Fuel:**

The boiler should be designed to use Furnace oil of nett calorific value as given below:

Furnace Oil : 9650Kcal /Kg.

**2.3 Thermal efficiency:**

The thermal efficiency on NCV basis of oil under normal working conditions should be 87 ±2 %.

Noted and agreed to the above

SIGNATURE OF THE TENDERER

## 2.4. Statutory Requirements:

The boiler should comply with the latest Indian Boiler Regulations (IBR), International Standards Organisation (ISO), PCB and other statutory regulations / requirements. The minimum requirement shall be as per the details furnished hereunder.

The electrical equipment, installation should comply with the latest Indian Electricity Regulations, CEIG and the EB regulations of the state in which the boiler is installed.

The Boiler should be got approved by the supplier from the Statutory authorities and any modifications or changes if suggested by the authorities, the same shall be carried out by the supplier without any additional cost. IBR certificate shall have to be handed over to the buyer.

## 3.0. Technical Specifications

| DESCRIPTION | UNITS | |
|---|---|---|
| **GENERAL** | | |
| Boiler Type | | 3 pass, fully wet back, smoke tube steam boiler, with reversal chamber |
| Design Code | | **IBR 1950 with latest amendment** |
| Steam Output F & A 100 $^0$ C | kg/hr | 8,000 |
| Design Pressure | kg/cm$^2$ (g) | 21 |
| Safety Valve Set Pressure | kg/cm$^2$ (g) | 21 |
| Thermal Efficiency on NCV @ 100 % load on FO (With APH) | % | 87 ±2 % |
| Net steam considering make up water temp. of 75 deg C and zero blowdown | kg/hr | 7280 @ 18 BAR G |
| Dryness Fraction | % | 98 |
| Heat Output | kcal/hr | 4.32x 10$^6$ |
| **FUEL** | | |
| Type | | FO |
| NCV | Kcal/Kg | 9650/8500 |
| Fuel Consumption (With APH) | Kg/Hr | 515 |
| **BURNER – FO** | | |
| Type | | Pressure jet |
| Light Up | | By pilot flame |
| Fuel Supply Pressure – | Kg/Cm2 (g) | 25 |
| Turn down | | 1:4 |
| Modulation | | Step less |
| Burner Flame sensor | | **UV Type** |

Noted and agreed to the above

SIGNATURE OF THE TENDERER

| DESCRIPTION | UNITS | |
|---|---|---|
| Qty | No. | **One** |
| **FEED WATER PUMP- PRIMARY CIRCUIT** | | |
| Type | | Centrifugal Multistage |
| Flow | $m^3/hr$ | 10 |
| Head | mLC | 200 |
| NPSH Required | mLC | 3 |
| Quantity | Nos. | 2 (1Working +1Stand by) |
| **Material Of Construction** | | |
| Impeller | | STAINLESS STEEL |
| Casing / Base | | STAINLESS STEEL |
| Shaft | | Stainless Steel |
| Type Of Seal | | NA (should with stand temperature of more than 90°C) |
| Speed | RPM | 2900 |
| Motor Power | kW | 11.19 KW/Vertical type |
| **ELECTRICAL** | | |
| **VOLTAGE** | | |
| Power | | 220 Volts +/- 1% ; 50 Hz +/- 5% ; 3 Phase, 4 Wire |
| Control Panel Load | kW | 0.5 |
| **EMISSION** | | |
| Nox | PPM | <300 |
| Sox | PPM | <2400 |

**4.0.Scope of Supply**

| Sr. No. | Item Description | Qty. |
|---|---|---|
| **I.** | **BOILER** | |
| 1. | **BOILER PRESSURE PART ASSEMBLY-**<br>Pressure part assembly consisting of the Full fusion welded shell consisting of:<br>• one no. wet back furnace and two sets of convection smoke tubes<br>• Hinged ceramic lined front doors and smoke chamber with soot cleaning door.<br>• One Manhole, Head holes on the boiler shell to inspect the internal of the boiler.<br>• One access opening at the back of the IRC to inspect the internal of the furnace.<br>• Two fusible plugs are provided as an ultimate mechanical safety to prevent the boiler from overheating in case of very extra low water level in boiler.<br>• Set of nozzles for various boiler mountings.<br>• Pair of legs / saddle support.<br>• Set of ladder & catwalk to operate the valves & fittings mounted on the Boiler | 1 set |

Noted and agreed to the above

SIGNATURE OF THE TENDERER

| Sr. No. | Item Description | Qty. |
|---|---|---|
| 2. | **OIL FIRED BURNER WITH AIR-OIL REGULATING ASSEMBLY**<br>• One Pressure jet spill return stepless modulation burner with the high voltage spark ignition/Pilot flame for burner light up.<br>• Burner is suitable for firing oil.<br>• Pressure gauge at inlet & outlet with isolation valve & siphon for oil pressure sensing.<br>• Flame sensor is provided in the burner to detect the flame in auto mode operation.<br>• Cam linkage free mechanism is required.<br>• Proper support frame is provided to mount the Air regulating assembly.<br>Proper support frame is provided to mount the Air regulating assembly.<br>The burner load regulation shall be electronic compound regulation consist of independent servo motor for air damper, an independent servo motor for oil regulation. Each motor shall be controlled through a central burner management system digitally. No Mechanical linkages should be provided to control air and fuel ratio.<br>**BURNER SEQUENCE CONTROL**<br>Switching ON a burner does not result immediately in a flame. The burner starts in a sequence which can be described as under: Initial Reference Position (closed damper position)<br>● Prepurge (full damper position)<br>● Secondary flame check<br>● Ignition<br>● Solenoid valve open for Ignition load<br>● Flame safety check<br>● Burner firing increased to Partial load<br>● Burner Modulation between Partial load and full load<br>● Burner off on flame failure/load limit<br>● Burner post-purge<br>All the above sequence is controlled by ICM (Intelligent Combustion Manager) with min 7” touch screen based operation.<br>ICM has plug in contacts to make the direct connections with all the valves, pressure switches, etc thereby eliminating intermediate wiring and terminal strips. ICM has inbuilt different operating sequences for different fuels i.e. Light oil, Heavy oil fuel and also for different type of load regulation. The ICM controls all connected correcting element/Actuator i.e. Oil Regulator, Air damper through individual servomotors through digital signals. Each servomotor is driven by a highly accurate stepping motor. The stepping motor used have high accuracy of 0.1 degree on angle of drive shaft and now we can dispense with | 1 Set |

Noted and agreed to the above

SIGNATURE OF THE TENDERER

| Sr. No. | Item Description | Qty. |
|---|---|---|
| | hysteresis compensation.<br>The Burner shall also be complete with Valve Proving System (Dungs / Siemens Make). O2 Trim shall be provided in the Burner with Oxygen Analyser (Zirconia Based) & Variable Frequency Drive. | |
| 3. | **Fuel Oil Filter**<br>• One Duplex type basket filter with 80 mesh filter element | 1 no. |
| 4. | **Ring main System - With 1 Working + 1 Standby Pump Configuration broadly consisting of the following,**<br>• Two Gear pump to maintain constant pressure of 2 - 3 kg/cm$^2$ at inlet of fuel oil pumps<br>• Two Motors for pumps<br>• Two Pressure gauges for indicating pressure at discharge of pumps<br>• Two Isolation valves for pressure gauges<br>• Two Isolating ball valves at the suction of pumps<br>• Two Isolating ball valves at the discharge of pumps<br>• Two Non-return valves at discharge of pumps<br>• One IPRV at outlet of OCH on return line to fuel oil day tank<br>• Base frame for assembly. | 1 Set |
| 5. | | |
| 6. | **Oil Pumping & Heating Unit- Steam cum Electric - With 1 Working + 1 Standby Pump Configuration** broadly consisting of the following,<br>• One Indirect heating type steam cum electric heating tank.<br>• Two Fuel oil gear pump with motor<br>• Two Isolating ball valve at fuel pump suction.<br>• Two Isolating ball valve at fuel pump outlet.<br>• Two Non-return valve at fuel pump bypass line.<br>• One Pressure gauge with isolation valve for sensing oil pre heater tank pressure.<br>• One Pressure switch on oil pre heater tank to cut steam/Electric heating in case of high tank pressure.<br>• One Y-type strainer in oil line at oil pre heater outlet.<br>• One Steam trap with isolation & bypass valve at steam coil outlet.<br>• One Temperature element with thermo well for sensing fuel oil temperature. | 1 set |

Noted and agreed to the above

SIGNATURE OF THE TENDERER

| Sr. No. | Item Description | Qty. |
|---|---|---|
| | • One IPRV in fuel pump bypass line.<br>• One Solenoid valve & Isolation ball valve in steam inlet line to OPH.<br>• One Pressure reducing station (Self acting-Mechanical) for the low steam pressure requirement of oil Pre-heater.<br>• One Safety relief valve on tank | |
| 7. | **Forced Draft (FD) Fan Assembly**<br>• One Centrifugal fan having backward curved impeller and volute casing;<br>• One Motor for fan;<br>• One Base frame for fan and motor;<br>• One Bird screen to prevent entry of particles to prevent mechanical damage;<br>• One Set of EPDM ducts to connect fan to air ducts w/o transferring vibrations; | 1 no. |
| 8. | **FEED WATER PUMP**<br>• Two Feed water pump (1Working +1Stand by)<br>• Motor<br>• Isolation valve as per PID<br>• Strainer-Y type | 1 set |
| 9. | **SINGLE ELEMENT DRUM LEVEL CONTROL**<br>broadly consisting of the following,<br>• One Pneumatic Control valve assembly with in-built I/P converter and air filter regulator (electro - pneumatic positioner) for regulating feed water flow to the **boiler.**<br>• Two Isolation valves for pneumatic Control valve in feed water line<br>• One Bypass valve for pneumatic Control valve in feed water line<br>• One Pneumatic Control valve assembly with in-built I/P converter and air filter regulator (electro - pneumatic positioner) in feed pump min circulation line.<br>• Two Isolation valves for pneumatic Control valve in feed pump min circulation line<br>• One Bypass valve for pneumatic Control valve in feed pump min circulation line<br>• One Non return valve in min circulation line after control valve.<br>• One Level transmitter for automatic boiler water level control<br>• Two Isolating globe valves for level transmitter.<br>• One Three valve manifold for level transmitter.<br>• One Condensate pot assembly for connecting the top leg of boiler and level transmitter | 1 set |
| 10. | **FEED WATER TANK WITH DEARATOR TANK**<br>• One Feed water tank of capacity 15 KL<br>• One Level indicator & level switches for feed water | 1 set |

Noted and agreed to the above

SIGNATURE OF THE TENDERER

| Sr. No. | Item Description | Qty. |
|---|---|---|
| | tank<br>• One Overflow and drain piping for feed water tank.<br>• Pipe from service tanks to feed pumps.<br>• Three gate valves<br>• Two Y type strainer<br>• Chemical dosing tank with interconnecting pipe | |
| 11. | **SET OF BOILER MOUNTING AND INSTRUMENT**<br>**a) Set of valves mountings & instruments for the boiler**<br>• One Main steam stop valve<br>• Two spring loaded single port safety valves<br>• One Air vent valve<br>• One Blow down valve<br>• One Main steam pressure gauge.<br>• One Pressure transmitter for burner step less modulation<br>• One Pressure switch for burner ON/OFF control.<br>• One temperature element for boiler outlet flue gas temperature measurement.<br>• Two Reflex type gauge glasses along with inbuilt isolation and drain valves.<br>• Two Float operated magnetic water level controller<br>• One Set of isolation and drains valves for instruments**.**<br>• One Explosion door for protection against high flue gas pressure<br>**b) Set of valves & fittings to be fit with the feed piping**<br>• Three Stop valves on feed water line<br>• Three Non-return valves on feed water line<br>• Two Pressures gauges at the outlet of the pumps<br>• Two Isolation valves for the pressure gauges | 1 Set |
| 12. | **LP DOSING SYSTEM**<br>• LDPE Dosing tank<br>• Diaphragm type pump mounted on tank;<br>• Motorized agitator;<br>• Set of foot valve with strainer, isolating valves and LDPE tubing; | 1 set |
| 13. | **POWER CUM CONTROL PANEL**<br>Construction :<br>• Free standing type, Form -1 ,conforming to IP 52 degree of protection. The panel shall be made out of 14/16 SWG CRCA sheets. Gland plate - 3 mm thk ,Front access ,Fixed type ,Powder coated to RAL7032/7035 , Mounting plate - RAL 2000, Max height - 2100 mm , Plinth - 100 mm ,Cable entry - Top/Bottom as per Control room layout.<br>• Earthing - GI/Aluminium , Brass bolt .<br>• Bus bar MOC – Aluminium<br>**Power section :** | 1 set |

Noted and agreed to the above

SIGNATURE OF THE TENDERER

| Sr. No. | Item Description | Qty. |
|---|---|---|
| | • Switchgear Short circuit rating - 10kA<br>• Incomer - MCCB with SC & OL protection, Analog ammeter and voltmeter<br>• Motor feeder - DOL,S/D,VFD feeders as applicable for motors breaker -MPCB/MCCB with SC & OL protection , Contactor and Thermal overload relay.<br>• On/Off Indication LED Lamps and Start/Stop Push button for Motor feeders (optional).<br>• Internal Wiring - Cu cond. ,PVC/XLPE Insulated , min 2.5 Sqmm power and min 1.0 Sqmm for control | |
| 14. | **Control section :**<br>• Programmable logic controller with non-redundant configuration 16/32 channel density digital input/output cards with channel to base plate isolation.<br>• 4/8 channel density analog input/output cards with channel to base plate isolation.<br>• Communication from PLC to IO racks / HMI on Ethernet/ Profibus/Canbus.<br>• 10% spare IO's are considered.<br>• HMI shall panel door mounted, touch screen type, 10" size, Real time trends, alarms and mimic shall be displayed on the HMI.<br>Note:<br>• Power & Control sections shall be housed in single enclosure, power and control section shall be separated by partition plate. | |
| 15. | **STEAM FLOW METER VORTEX TYPE**<br>• One vortex type for measuring steam flow.<br>• One DSC sensor & sensor seal<br>• One Temperature sensor – built into flow meter<br>• One 2 line display with push button<br>• One Set of flange type end connections | 1 set |
| 16. | **BOILER EFFICIENCY MONITORING SYSTEM & O2 TRIM SYSTEM WITH TOUCH SCREEN PANEL**<br>• Oxygen sensor for O2 trim on FO<br>• O2 trim controls<br>• Steam Production data in kg/hr, Steam Totalizer etc<br>• Feed water consumption data in kg/hr at the inlet of feed water tank<br>• Fuel consumption data in kg/hr and Fuel Totalizer etc.<br>• Oxygen % monitoring<br>• Steam / Fuel Ratio<br>• Boiler efficiency on NCV / Various losses data<br>• Data of Steam Pressure, Feed Water Pressure, FO Supply & Return Pressure, Flue Gas temp. in the stack etc.<br>• Data of Steam Temp., Feed Water Temp., Flue Gas | 1 set |

Noted and agreed to the above

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| Sr. No. | Item Description | Qty. |
|---|---|---|
| | Temp. in the stack etc<br>• Data of Boiler Blowdown Water TDS and TDS Totalizer<br>• Touch screen of panel shall be 10” display<br>• Output communication protocol required Modbus TCP-IP / RS 485.<br>• TDS based automatic blow down valve system<br><br>O2 Trim in Oil<br><br>The basic modulation of Air, Oil is done through electronic compound regulation through independent servo-motors controlled by respective Intelligent Combustion Manager at respective firing rates. Combustion is mass principle. The Air to Fuel Ratio is impacted by changes in the air density (volume). The air density is impacted with respect to ambient temperature and altitude.The changes in Air density results in a variance between SV (Set Value) and PV (Process Value) for excess air. Dampers are volume control devices which modulate opening area. To correct the variance, we adapt oxygen trimming and this is achieved through the speed control of the Variable Frequency Drive. The VFD achieves both correction of the variance and electrical power saving. Below is the range of change in Air Volume (Density) with respect to temperature. ICM uses the Stack Oxygen feedback to measure the variance between PV & SV and accordingly control the speed of Fan to compensate the variance. Step One is to control with Dampers and Step Two is to adjust for variance in Oxygen through Feedback. A combination of this is the ECR + O2 Trim control for Oil is required. | |
| 17. | **SET OF COMMISSIONING SPARE**<br>**a) Boiler spares**<br>• One Pressure gauge - Boiler<br>• One Pressure gauge - Downstream of FW Pump<br>• One AFR for various pnuematically actuated valves<br>• One Set of gaskets for various equipments<br>• One Set of hardware<br>**b) Burner spares**<br>• One Sight glass<br>• Two Ignition Electrode<br>• One Ignition Cable<br>• One Ignition Transformer<br>• One Air pressure switch<br>• One Pressure gauge | 1 set |
| **II.** | **CHIMNEY** | |
| 18. | **SELF SUPPORTED CHIMNEY**<br>Self-supported chimney (designed as per IS 6533) with base plate, bolts, nuts, one sampling port, Alumminium | 1 set |

Noted and agreed to the above

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| Sr. No. | Item Description | Qty. |
|---|---|---|
| | earthing strip, one lightning arrestor, one aviation lamp with electrical cable up to bottom, platform at various stages with cage ladder.<br>**Chimney Top Dia. : 700 mm**<br>**Chimney height – 42 M**<br>Chimney MOC - IS 2062 / Mild Steel<br>Note:<br>• Approval letters from the National Environment Agency (NEA) for installing a chimney shall be in supplier's scope. | |
| 19. | **DUCTING**<br>• Combustion air ducting from Fan to Burner-IS 2062 Gr.A<br>• Boiler outlet to Economiser Inlet-IS 2062 Gr.A<br>• Economiser Outlet to Chimney inlet-IS 2062 Gr.A<br>• Expansion bellows / isolation dampers | 1 Set |
| 20. | **INSULATION**<br>• Mineral wool of 120 kg/$m^3$ density, Aluminium cladding of 22 (For bigger sections (>1000 mm) and 24 (For smaller sections, < 1000 mm) SWG thickness. Insulation shall be provided for following surfaces.<br>• Pressure Parts (factory Insulated)<br>• Flue gas ducting<br>• Desecrator<br>• Economiser<br>• Piping<br>• Valve & Flange Boxes<br>• Insulation for chimney - upto 3 meter from FFL<br>• | 1 Set |
| 21. | **Cabling**<br>• Power cables from panel to individual drive - Copper cable up to 2.5 $mm^2$ and Aluminum cable above 2.5 $mm^2$, XLPE insulated, Armoured cable<br>• Control cables from panel to field instruments - Multi-core – 1.5 $mm^2$ Cu cable<br>• Cable tray with supports - Mild Steel perforated / ladder trays<br>• Electrical hardware - lugs, glands, ferrules, insulation tape<br>• Earthing above ground - GI strips<br>• Cable Laying- Overhead cable trays | 1 Set |
| 22. | **Piping (Steam / Water / Drain / Blow-Down / Vent)**<br>• Feed water piping from Feed Water Tank to Feed water pumps- ERW – C - Class - Max 30 meter<br>• Feed water pump spill back piping from feed water pumps to FWT- ERW – C - Class pipes- Max 30 meter<br>• Blow down piping from boiler to blow down tank and to blowdown pit– SA 106 GR. B. (Maximum 15 m)<br>• Open drain piping from boiler instruments drains to | 1 Set |

Noted and agreed to the above

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| Sr. No. | Item Description | Qty. |
|---|---|---|
| | B/D pit - IS 1239 Medium Grade - Maximum 15 m<br>• Drain piping from fuel tank instrument to open drain - IS 1239 Medium Grade<br>• Instrument air piping - SA 106 Gr. B - Maximum 40 m<br>• Air vent piping from boiler to safe elevation - IS 1239 Medium Grade – 15 meters<br>• Safety valve exhaust piping from boiler to safe elevation– SA 106 Gr. B – 15 meters<br>• Steam piping from boiler MSSV up to steam header - SA 106 Gr. B SCH 40<br>• FO piping from FO service tank to Filter, ring main and to burner<br>• IS 1239 Heavy grade. (Maximum 150 m) | |
| 23. | **Structural Supports**<br>• All the primary support elements viz. truss members of steel / concrete, pipe rack etc. are in supplier's scope. The list below is for the secondary structural elements also supplier's scope.<br>• Structural support for Piping and ducting.<br>• Structural support for cable trays<br>• Structural supports for Economiser<br>Platforms with ladder | 1 Set |
| 24. | **BLOWDOWN TANK (1 KL)** | 1 Set |
| 25. | **FO TANK- 4.5 KL** | 1 Set |
| 26 | **STEAM HEADER** | 1 Set |
| 27. | **GENERAL**<br>• Painting - as per standard specifications<br>• IBR Approval till provisional firing certificate<br>• Transportation<br>• Erection and commissioning | 1set |
| 28. | **FURNACE OIL PUMPING SYSTEM FROM OLD SYSTEM TO NEW BOILER**<br>• FO Transfer pipe from existing bulk storage to service tank (max 150 Mtrs) with<br>transfer pump (1 working + 1 Standby). | 1 Set |
| 29. | **Steam Pipe Line & Condensate Pipe Line. From 30 MT powder plant and new process plant to condensate tank.** | 1 lot. |
| 30. | **Steam Line Accessories** | |
| 30.1. | Isolation Valve –Class 6 Piston valve, 100 NB –FLANGED AS PER ASME B16.5 , CLASS # 300-IBR | 1 Nos |
| 30.2. | Isolation Valve –Class 6 Piston valve, 50 NB-FLANGED AS PER ASME B16.5 , CLASS # 300-IBR | 2 Nos |
| 30.3. | Isolation Valve –Class 6 Piston valve , 100 NB –FLANGED AS PER ASME B16.5 , CLASS # 300-IBR | 3 Nos |
| 30.4. | Isolation Valve –Class 6 Piston valve, 125 NB –FLANGED AS PER ASME B16.5 , CLASS # 300-IBR | 2 Nos |

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| Sr. No. | Item Description | Qty. |
|---|---|---|
| 30.5. | Pressure Reducing Station (PRS) With Roboter controlled control valve with Class 6 Piston Valves & Baffle type Moisture.Size -100 x 125 NB, I/L x O/L End Connection FL - #300 x # 300 Steam Flow rate = 6800 Kg/hr, Inlet Pressure = 19 $Kg/cm^2$ Outlet Pressure = 15 $Kg/cm^2$, Safety Valve Pressure = 16.5 $Kg/cm^{2..}$<br>PRV turn down to be 1;40.Isolation valves for the pressure gauges to be Class 6 Piston valves. The makes of the components/accessories in the PRS station should be a single make of the manufacturer | 1 Nos |
| 30.6. | Pressure Reducing Station (PRS) With Roboter controlled control valve with Class 6 Piston Valves & Baffle type Moisture separator. Size -50 x 100 NB, I/L x O/L End Connection FL - # 300 x #300 Steam Flow rate = 1500 Kg/hr, Inlet Pressure = 15-17 $Kg/cm^2$ Outlet Pressure = 4 $Kg/cm^2$, Safety Valve Pressure = 4.5 $Kg/cm^2$<br>PRV turn down to be 1;40. Isolation valves for the pressure gauges to be Class 6 Piston valves. The makes of the components/accessories in the PRS station should be a single make of the manufacturer | 1 Nos |
| 30.7. | Disc check valve- DCV # 300, Of SS body and Spring and with serrated ends and to be suitable to install between flanges- IBR- 100NB | 1 Nos |
| 30.8. | Condensate recovery system<br>Condensate Flow Rate: 6000 Kg/hr<br>Motive Steam Pressure: 6 kg/cm2(g)<br>Back Pressure: 2 kg/cm2<br>Assembly consists of<br>Flash vessel assembly- 1no<br>Pump shell assembly- 1no<br>Butterfly valve – 1no<br>Disc check valves- 3nos<br>Strainer- 1no<br>With insulation jacket and condensate recovery meter<br>Completely Prefabricated fully closed system, no venting.<br>Pumping temperature to be 106DegC. | 1 Nos |
| 30.9. | Pressure Gauge- Bourdon Type, 0-40 kg/cm2 range, 陆 NPT connection, 150NB Dial size, with syphon & Isolation Valve (Piston valve) | 2 Nos |
| 30.10. | Safety Valve – for 8 TPH Boiler Main Header, Steam Flow rate: 8000 kg/hr, Safety Valve Steam Set Pressure- 20 kg/cm2 | 1 Nos |
| 30.11. | Compact main line steam trap with inbuilt inlet, bypass, outlet, trap test and trap vent valves, Isolation valves to be class 6 piston type only. Flanged ends # 300. Body- ASTM A 105, Piston valve body- Forged Carbon steel, Piston – ASTM A 276 TP 304 | 15 Nos |
| 30.12. | Baffle type Moisture separator- Body- ASTM A 216 Gr WCB, Baffle plate- ASTM A 216 Gr WCB, Flanged to # 300 | 1 Nos |

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| Sr. No. | Item Description | Qty. |
|---|---|---|
| 30.13. | Air vent with Air Collection bottle<br>Type- Balanced pressure thermostatic steam trap<br>Pipe- ASTM A 106 Gr B<br>Trap- Balanced pressure trap SA 105<br>Long bend- 2nos- ASTM A 106 Gr B<br>Air bottle- 1no- ASTM A 106 Gr B<br>With root isolation valves- Piston valve<br>Body of valve- ASTM A 105<br>Piston of valve- ASTM A 276 TP 304<br>Socket welded ends | 2 Nos |

| **31.** | **Steam and condensate piping** | | |
|---|---|---|---|
| **31.1** | **STEAM PIPING** | **Size** | **Qty** |
| 31.1.1 | New Header 200NB (1 inlet nozzle, 2 outlet nozzles, 1 spare, Steam Trap Assemble, Air Vent, Pressure Gauge assembly with isolation valve and Siphon, SORF Flange and gasket) | | 1 Ls |
| 31.1.2 | Pipe from MSSV to New Header, New Header to 30 MT powder Plant | 100 NB | 130 Mtrs |
| 31.1.3 | New Header to Existing Header | 125 NB | 100 Mtrs |
| 31.1.4 | Existing Header to interconnecting line | 50 NB | 12 Mtrs |
| 31.1.5 | Hardware & Spiral wound Gasket | | 1 Ls |
| 31.1.6 | Erection of PRS | | 2 Nos |
| 31.1.7 | Erection CSR | | 1 Nos |
| 31.1.8 | Erection of Valves | | 1 Ls |
| 31.1.9 | Insulation | 100 Thk | 585 Sqmtr |
| 31.1.10 | IBR Formalities | | 1 Ls |
| 31.1.11 | TD trap Set | | 8 Nos |
| **31.2** | **CONDENSATE & FLASH STEAM PIPE** | | |
| 31.2.1 | Pipe 100NB ERW C-Class | 100NB | 102 Mtrs |
| 31.2.2 | Pipe 150NB ERW C-Class | 150NB | 102 Mtrs |
| 31.2.3 | Insulation | | 255 Sqmtr |
| **31.3** | **Support Structure** | | 5000 Kgs |
| | Painting of structural one coat Epoxy with one coat Finish paint | | |
| **31.4** | Steam Pipe: Existing header to new process block | 50 NB | 120 Mtr. |

## 5.0.Controls and safeties

| SR. NO. | UNSAFE CONDITIONS | INSTRUMENTS | ACTION |
|---|---|---|---|
| 1. | Low water level in the boiler | Level controller | Alarm & burner trip |
| 2. | Extra low water level in the boiler | Fusible plug | Fusible plug blow & burner trip |

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| | | | |
|---|---|---|---|
| 3. | Burner flange open | Positioner | Burner trip |
| 4. | Flame failure | Flame sensor | Alarm & burner trip |
| 5. | Stack temp high | Temperature switch | Alarm & burner trip |
| 6. | Steam pressure high | Safety valve | Lift |
| 7. | Water tank level extra low | Feed water pump | trip |
| 8. | APH inlet damper closed | Limit switch | Alarm & burner trip |
| 9. | APH outlet damper closed | Limit switch | Alarm & burner trip |
| 10. | APH bypass damper Open | Limit switch | Alarm & burner trip |

## 6.0.Parameters

### 6.1.Fuel Parameters – Furnace Oil

| SR. NO | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| 1. | Net calorific value | 9,650 | Kcal/Kg |
| 2. | Density @ 15 $^0$C | 0.96 | Kg/Liter |
| 3. | Flash point | 60-70 | º C |
| 4. | Water content | 1 (max) | % Vol. |
| 5. | Kinematic viscosity | 250 @ 50 $^o$C (max) | cSt |
| 6. | Pour point | 15 | º C |
| 7. | Sediment | 0 | % by Wt |
| 8. | Ash content | 0.05 (max) | % by Wt |
| 9. | Sulphur | 4 (max) | % by Wt |
| 10. | Nitrogen | 0.3 (max) | % by Wt |
| 11. | Contradson carbon | 4 | % by Wt |
| 12. | Pressure @ TOP | 1 – 2 | Kg/cm$^2$ |

### 6.2. Water Parameters

Feed water specification as follows as per IS 10392 –1982

| SR. NO | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| 1. | Total Hardness | < 5 | ppm |
| 2. | Dissolved O2 | 0.1 | ppm |
| 3. | pH value | 8.5 to 9.5 | - |
| 4. | Free CO2 | NIL | ppm |
| 5. | Bound CO2 | < 5 | ppm |
| 6. | TDS | 400 max | ppm |
| 7. | Temperature | 90 | º C |

❖ **NOTE :-**

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- ✓ TDS value indicated is the maximum permissible. However, based on the blow down percentage, the allowable TDS should be worked out considering operating economics;
- ✓ The feed water temperature indicated requires a minimum tank elevation of 6 meter.
- ✓ Conditioning chemicals need to be added to keep the hardness causing salts in suspension.

### 6.2.1.Boiler Water Parameters

| SR. NO | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| 1. | Total Alkalinity | 700 | ppm |
| 2. | Caustic Alkalinity | 350 | ppm |
| 3. | pH value | 11 – 12 | - |
| 4. | P2O5 | 20 – 40 | ppm |
| 5. | Residual Na2SO4 | 30 – 50 | ppm |
| 6. | Residual N2H2 (if added) | 0.1 to 1 | ppm |
| 7. | SiO2 | 140 (max) | ppm |
| 8. | TDS | 3500 (max) | ppm |
| 9. | Conductivity | 1000 -10,000 | µs/cm |

### 6.3.Utilities

**A) AIR**

| SR. NO. | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| 1. | Pressure | 6 - 7.5 | $Kg/cm^2(g)$ |
| 2. | Quality | Dry & oil free | |
| 3. | Temperature | Ambient | |

### 6.4.Power

- ✓ Power Voltage : 415V + 10% V, 50 Hz+ 3% Hz, 3 ph, 4 wire
- ✓ Control Voltage:240V + 10% V, 50 Hz+ 3% Hz, 3 ph, 4 wire

## 7.0.Battery Limits

**7.1.Water**
- At inlet of deaerator water control station
- Inlet of blowdown pit

**7.2.Steam**
- At outlet of steam header
- Outlet of exhaust safety valve at safe elevation

**7.3.Flue Gas**
- At outlet of chimney

**7.4.Air**
- At inlet flange of FD Fan

**7.5.Fuel**
- At inlet flange of FO tank

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**7.6.Electrical**

- Terminal connectors of MCC cum PLC panel,

**8.0.Make List**

| SR. NO. | ITEM | MAKE |
|---|---|---|
| **A.** | **Mechanical** | |
| 1. | Fans (FD fan) | LAKSHMI/UNIMAX |
| 2. | Boiler Feed water pumps with motor | GRUNDFOS |
| 3. | LP Dosing system assembly | NM ENTERPRISES/REPUTED SUPPLIER |
| 4. | Air filter regulator | SHAVO NORGAN/ JANATICS /FESTO |
| 5. | Strainer | GUJARAT AUTOFIT/ SYSTEM TECHNOLOGY |
| 6. | Power cylinder | ROTEX / KELTRON / NUCON |
| 7. | Steam trap | THERMAX/REPUTED SUPPLIER |
| 8. | Pneumatic Actuator | ROTEX / KELTRON / NUCON |
| 9. | Burner | OILON/WEISHAPUT |
| 10. | Natural Gas train | MADAS/REPUTED VENDOR |
| 11. | Duplex Filter | GUJARAT AUTOFIT/REPUTED SUPPLIER |
| 12. | Manual damper | REPUTED SUPPLIER |
| 13. | Control Valves | /TECHNIK/KSB (MIL)/SAMSON / FORBES MARSHALL |
| 14. | Gate / Globe / Check valves | EXPERT/KSB |
| 15. | TDS based Automatic Blow down valve | PUNJAB METALS /INDITECH /ATAM/FORBES MARSHALL |
| 16. | Safety valves | TYCO SANMAR/ FAINGER LASER/ UKL |
| 17. | Butterfly valve | INTERVALVE/ ASWAN |
| 18. | Needle valve | CHAMP/REPUTED SUPPLIER |
| 19. | Ball Valves | MICON/INTERVALVE/BDK/L&T/VIRGO/MICROFINISH |
| 20. | Pnu. Actuated ON/OFF ball valves | VIRGO/ELOMATIC / MICROFINISH |
| 21. | Pnu. Actuated ON/OFF butterfly valves | INTERVALVE/ ASWAN |
| **B.** | **INSTRUMENTS** | |
| 1. | Level Transmitter | HONEYWELL / YOKOGAWA/ E&H /EMERSON |
| 2. | Temperature transmitter | HONEYWELL / YOKOGAWA/ E&H /EMERSON |
| 3. | Pressure Transmitter | HONEYWELL / YOKOGAWA/ E&H /EMERSON |
| 4. | Flow transmitter | HONEYWELL / YOKOGAWA/ E&H |

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| SR. NO. | ITEM | MAKE |
|---|---|---|
| | | /EMERSON |
| 5. | Pressure Gauge | THERMAX/MICRO/FORBES |
| 6. | Temperature Gauge | THERMAX/MICRO/FORBES |
| 7. | Vortex type steam/Water Flow/Gas Meter | EMERSON/E&H/YOKOGAWA |
| 8. | Orifice type- Flow element | MINCO/STARMECH/DYNAFLUID |
| 9. | Aerofoil type- Flow element | STARMECH/MINCON |
| 10. | Tubular level guage | REPUTED SUPPLIER |
| 11. | Reflex level guage | REPUTED SUPPLIER |
| 12. | TRANSPARENT LEVEL GAUGE | REPUTED SUPPLIER |
| 13. | LEVEL GAUGE BALL FALING | REPUTED SUPPLIER |
| 14. | MAGNETIC TYPE LEVEL GAUGE | REPUTED SUPPLIER |
| 15. | Bicolour Level Gauge | REPUTED SUPPLIER |
| 16. | Level Switch (Float type) | REPUTED SUPPLIER |
| 17. | Level controller (Float type) | REPUTED SUPPLIER |
| 18. | Pressure Switch | SWITZER/DANFOSS |
| 19. | Limit switch/Proximity switch | P & F / SIEMENS/L&T |
| 20. | RTD | REPUTED SUPPLIER |
| 21. | Thermocouple | REPUTED SUPPLIER |
| 22. | Valve Manifold | ARYA CRAFT ENGG/STARMECH/CHAMP INSTRUMENT/GIC |
| 23. | Solenoid valves | ASCO/ROTEX/AVCON |
| 24. | O2 Analyzer | YOKOGAWA/EMERSON / ABB |
| 25. | pH analyser | EMERSON/HACH/TELYDIEN |
| 26. | SPM analyser | SEPL/EMERSON |
| 27. | CEMS Analyser (Sox, Nox, Co) | SEPL/EMERSON |
| 28. | Conductivity Analysers | EMERSON/HACH/TELYDIEN |
| 29. | portable Sox- Noxanalyzer | TESTO |
| 30. | Boiler efficiency Monitoring system & O2 trimmer system with touch screen panel | FORBES/THERMAX/YOKOGAWA |
| **C.** | **ELECTRICAL** | |
| 1. | LT Motor | LAXMIHYDRAULICS/BBL/CGL/SEIMENS/ ABB |
| 2. | PLC System | HONEYWELL/SCHNEIDER/SIEMENS/ROCKWELL (AB) |
| 3. | SCADA | HONEYWELL/SCHNEIDER/SIEMENS/WON |

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| SR. NO. | ITEM | MAKE |
|---|---|---|
| | | DERWARE/AB |
| 4. | HMI | SIEMENS/ SCHNEIDER/AB/HONEYWELL |
| 5. | VFD | DANFOSS/ABB/ SCHNEIDER |
| 6. | UPS | HIRELL/EMERSON /CHAMPION / APC |
| 7. | Instrument cabling | POLYCAB/THERMO CABLE/SBEE |
| 8. | Power cabling | POLYCAB/FINOLEX/RR |
| 9. | MCB/MCCB/MPCB/Fuse | SCHNIDER / SIEMENS |
| 10. | Cable trays | ELCON/OBO |
| 11. | Junction box-FRP/GRP | PHONEIXMECANO/PUSHTRON/RITTAL |
| 12. | Junction box-CRCA | TASWA/SAILEE/HENSSEL |
| 13. | Current transformer | RISHAB/AE LTD |
| 14. | Power Contactors | EPCOS/SEIMENS |
| 15. | Energy meter | RISHAB/SCHNEIDER |
| 16. | LPBS | BALIGA/SUDEER SWITCH GEAR |
| 17. | Computer | HP/DELL |
| 18. | Ammeter/Voltmeter (analog) | RISHAB/ SELEC |
| 19. | Overload Relays | SIEMENS/SCHNEIDER/L&T |
| 20. | Ammeter (Digital) | RISHAB / SELEC |
| 21. | Ammeter/Voltmeter selector switch | TECHNIK/SIEMENS |
| 22. | Hooter | CAPTAIN |
| 23. | Lamps(Filament/LED) | SIEMENS/TECHNIK |
| 24. | Main Isolator Switch | SIEMENS/SCHNEIDER/L&T |
| 25. | I/P Convertors | MASIBUS/P&F |
| 26. | DC Power supply unit | PHEONIX/SIEMENS |
| 27. | Relay (Auxillary) | SIEMENS/SCHNEIDER |
| 28. | Shilled cables | THERMO CABLES/SBEE |
| 29. | Switches(Actuators)/PBs | TECHNIK/SIEMENS |
| 30. | Terminals (Clip-on type) | WAGO/CONNECT WELL |
| 31. | Terminals blocks | WAGO/CONNECT WELL |
| 32. | Timers | SIEMENS/SCHNEIDER |
| 33. | Hardwares | GREAT METALS PVT. LTD/ARYA CRAFTS PVT. LTD |
| 34. | PID Controller | MASIBUS/YOKOGAWA/HONEYWELL |
| 35. | MCC Panel Enclosure | APPROVED VENDOR |
| 36. | PLC Panel Enclosure | APPROVED VENDOR |

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| Sl. No. | Description | Make |
|---|---|---|
| 1 | Boiler drum plate | SAIL/TISCO/IISCO/RINL/ESSAR |
| 2 | Boiler tubes | TATA/ISMT/ JINDAL |
| 3 | Boiler feed water pump | GRUNDFOSS /WILO |
| 4 | HP / LP steam / condensate valve | FORBES MARSHALL / AUDCO / SPIRIX/ UNIKLINGER |
| 5 | Steam traps and strainer | FORBES MARSHALL / SPIRIX/ SAMSON/ UNIKLINGER |
| 6 | Steam NRV | AUDCO/ FORBES MARSHALL /BDK /THERMAX/ UNIKLINGER |
| 7 | Fuel Oil pump | NEELS – ENTEES /SUNTEC |
| 8 | Burner | FBR/OILON/WEISHAUPT/FORBES MARSHALL |
| 9 | Blower | BURNER MANUFACTURER STANDARDS |
| 10 | Sequence Controller | BURNER MANUFACTURER STANDARDS |
| 11 | Photocell | BURNER MANUFACTURER STANDARDS |
| 12 | Main steam stop valve and Mobrey isolation valve - Piston Type | FORBES MARSHALL / UNIKLINGER |
| 13 | Steam and Water valves | FORBES MARSHALL / UNIKLINGER/L&T |
| 14 | Non return valve – Disc check type | FORBES MARSHALL/ UNIKLINGER/L&T |
| 15 | Safety Valve | FAINGER LESSSER / FORBES MARSHALL |
| 16 | Oil pre heater (Electric) | BOILER MANUFACTURER STANDARDS |
| 17 | Pressure gauge | FORBES MARSHALL / H GURU / FIEBIG / GLUCK |
| 18 | Manual Blow down valve | LEVCON / SHARP / FORBES MARSHALL |
| 19 | Automatic Blow down Valve | FORBES MARSHALL / THERMAX / GESTRA |
| 20 | Level indicator | TELEFLO / TECTROL |
| 21 | Level controller | MALHOTRA/KDG MOBREY(UK)/ ENGINEERING DEVICES |
| 22 | Steam flow meter (Vortex type) | FORBES MARSHALL/YOKOGAWA/ HONEYWELL/THERMAX |
| 23 | Forced draft Fan | FLAKTWOODS/NADI/LAXMI /UNIVERSAL / AIR CONTROL |
| 24 | Pressure switches | DANFOSS / ALCO / HANSEN / PARKER / E &H / SWITZER / PYROTECH / ALTOP / GIC / WIKA / INDFOSS |
| 25 | Electric motor | BHARAT BIJLEE / SIEMENS / ABB / KIRLOSKAR / CROMPTON GREAVES |
| 26 | MCCB, MPCB | L &T / MDS – LEGRAND / SIEMENS / ABB / MERLIN GERIN/ GE / CROMPTON GREAVES |
| 27 | Contactors , Starter and over load relays | L &T / SIEMENS / ABB / SCHNEIDER |
| 28 | MCB | SIEMENS / L &T / HAGER / MDS – LEGRAND /GE |
| 29 | LT Power cable | CCI /FORT GLOSTER /RPG ASIAN / INCAB / FINOLEX / UNIVERSEL / NICCO / POLYCAB |
| 30 | LT Copper control cable | CCI /FORT GLOSTER /RPG ASIAN / FINOLEX |

Noted and agreed to the above

SIGNATURE OF THE TENDERER

| | | |
|---|---|---|
| | | /RR KABELS (UNILAY)/ LAPP KABEL / POLYCAB |
| 31 | Efficiency Monitoring system with Trim control<br>• Computation unit<br>• Trending software<br>• Online display of parameters<br>• Direct steam to fuel ratio<br>• Stack loss in % &stack temp<br>• Blow down Loss TDS based<br>• Oxygen %<br>• Density compensate steam flow meter<br>• Oil flow meter/ring main system | FORBES MARSHALL /THERMAX/SPIRAX/ROSE MOUNT |
| 32 | Boiler | FORBES MARSHALL/ THERMAX/ INDUSTRIAL BOILER/ HEATEX/ISGEC/SHANTHI BOILERS/SHREE LAXMI BOILER |

**Note :**

- The overflow & drain lines shall be connected & extended to the nearest drain.
- Bidder shall submit a detailed GA dimensioned drawing for approval before fabrication
- Stand-off for all connections on the tank shall be at least 150 mm

**9.0. Exclusion**

- Boiler house civil works, all foundations, masonry trenches and blow down pit.
- Incoming electrical connection to boiler control panel and two earthing conductor in the boiler plant room.

**10.0. The bidders shall inspect the site before quoting.**

**11.0 Steam Piping Installation:**

**11.1 General Guidelines:**

All piping system shall comply with the latest editions of the following regulations wherever applicable.

a) Indian Boiler regulation.

b) Regulations of explosive Inspectorate.

Noted and agreed to the above

SIGNATURE OF THE TENDERER

c) All applicable central / State Government laws/ Acts

**12.0. GENERAL**

12.1 The scope of work includes storing, moving of the plant and equipments including their parts & fittings from the work site premises to the place of erection, decrating, aligining, assembling, fixing on foundations.

12.2 This job is to be considered as a complete turnkey job and accordingly all items necessary to give the rated performance are included in the scope of work, even though not specified in details.

12.3. No deviation shall be allowed in any form in the tender. If any such deviation is found in the offer, the offer will lead to disqualification.

12.4. The supplier should prepare the detailed General assembly drawing showing plan, elevation, end view and cross sectional view of the equipment with complete materials. The drawing should be got approved by SDCMPU Ltd., before starting fabrication. The bought out items should be clearly indicated with make, model and type.

12.5. The supplier should give provision for installing two 8TPH Boiler (1 Working + 1 Standby) with chimney connections, feed water tank oil tank connections shall be made.

12.6. The supplier should obtain necessary approval / certificate from the Inspector of Boiler for supply, erection and commissioning of new 8 TPH Boiler steam lines and also necessary CEIG certificate from Electrical Inspector for the electrical works

Noted and agreed to the above

SIGNATURE OF THE TENDERER

| | | |
|---|---|---|
| NAME OF ITEM / WORK | : | **SUPPLY, ERECTION AND COMMISSIONING OF 8000 KG./HR. FURNACE OIL FIRED STEAM BOILER WITH CHIMNEY AND ACCESSORIES FOR SALEM DCMPU LTD.,** |
| TENDER REFERENCE NO | : | 1111/Proj.4/2022, Dated:28.02.2022 |

# PART – II

# COMMERCIAL BID

THE TAMILNADU COOPERATIVE MILK PRODUCERS' FEDERATION LTD CHENNAI 600 035



SIGNATURE OF THE TENDERER

## QUALIFICATION

The commercial offers of such of those tenderer who qualify themselves for being considered for **Supply, Erection and Commissioning of 8000 Kg./Hr. Furnace Oil Fired Steam Boiler with Chimney and Accessories for Salem DCMPU Ltd.,** by fulfilling the entire terms and conditions as laid in Part I "Technical Bid" of this tender, will be considered for the finalization of the tender. Other commercial offers not qualifying as above will be rejected outright.



SIGNATURE OF THE TENDERER

**Supply, Erection and Commissioning of 8000 Kg./Hr. Furnace Oil Fired Steam Boiler with Chimney and Accessories for Salem DCMPU Ltd.,**

**ABSTRACT**
**PRICE QUOTE SCHEDULE**

**In Rupees**

| S.N. | DESCRIPTION | | | RATE |
|---|---|---|---|---|
| **A** | **SUPPLY:** | | | |
| 1 | Basic Price<br>Itemise Break up details – to be furnished in a separate enclosure | | | |
| 2 | Packing Forwarding if any | | | |
| 3 | Transportation charges to site including loading and unloading charges | | | |
| 4 | Transit insurance | | | |
| 5 | GST/IGST | | | |
| | **Sub-Total (A)** | | | |
| **B** | **Installation, Testing and Commissioning** | **Material cost if any** | **Labour Cost** | |
| 1 | Unpacking, shifting and positioning charges | | | |
| 2 | Installation, Testing and Commissioning charges | | | |
| 3 | GST/IGST | | | |
| | **Sub Total (B)** | | | |
| | **TOTAL PRICE (A+B)** | | | |
| | **TOTAL PRICE IN WORDS** | | | |

SIGNATURE OF THE TENDERER WITH SEAL



SIGNATURE OF THE TENDERER

## BREAK-UP DETAILS FOR ABSTRACT PRICE QUOTE SCHEDULE

**(In Rupees)**

| Sl. No. | Item Description | Qty. | Unit | Basic Price | P&F | Transport charges | Transit insurance | GST/IGST | Total Price |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Boiler | 1 | No. | | | | | | |
| 2 | Automatic blowdown control system | 1 | Lot | | | | | | |
| 3 | Feed water tank with interconnecting pipes for running and standby Boiler | 1 | Lot. | | | | | | |
| 4 | Oil Tank with interconnecting pipes for running and standby Boiler | 1 | Lot | | | | | | |
| 5 | Level indicator system for each water and furnace oil tank | 1 | Lot. | | | | | | |
| 6 | Atmospheric deaerator | 1 | No. | | | | | | |
| 7 | Others if any (Please Specify | | | | | | | | |
| 8 | Total | | | | | | | | |

SIGNATURE OF THE TENDERER WITH SEAL



SIGNATURE OF THE TENDERER

**Note:-**

1). The rates should be quoted separately for equipment-wise with break-up of Basic Price, Packing & Forwarding, Transportation charges, Loading and unloading charges, Transit insurance, GST/IGST for supply, Unpacking, shifting and positioning charges, Erection & commissioning charges, GST/IGST for Erection & commissioning etc., which should be totaled and mentioned in the Abstract of Price Quote Schedule.

2). The tenderer shall furnish break up details for the above in a separate sheet for Price, GST/IGST, with the percentage.

3). All the rates should be only in terms of Indian Rupees.

4). Tenderer should indicate origin of country from which the equipment is imported and has to produce authorization letter from OEM.

5). Phrases like `Extra', `as applicable', `at the prevailing rate' etc. should not be quoted to avoid ambiguity.

**Seal of the firm** **Signature of the tenderer**

Witness:

1

2

Date: