



WEST BENGAL LIVESTOCK DEVELOPMENT CORPORATION LIMITED

(A Govt. Of West Bengal Undertaking)

LB-2, Sector-III, Salt Lake City, Kolkata – 700 106

Telefax: (033)-2335 5298 E-mail: info@wbldc.in

Website: www.wbldc.in Toll Free No. 18001208243

NIT No: WBARD/WBLDC/NIT-726e/2024-25

Date of Issue: 18/07/2024

SET OF TENDER DOCUMENTS

For

Modernization of Bishnupur Dairy of Kangsabati Milk Union, Bishnupur, Bankura-722122, West Bengal on Turnkey Basis during the year 2024-2025

Each Set Contains:-

1. Notice Inviting e-Tender.
2. General Instruction to Bidders.
3. Eligibility Criteria for Participation in the Tender.
4. Evaluation of Tender.
5. Tender Terms & Conditions.
6. Scope of Work / Job Schedule
7. Forms-I, II, III, IV, V & Check List - VI.

DATE OF PUBLICATION OF e-TENDER (ONLINE): 18/07/2024 FROM 06:55 P.M.

STARTING OF BID SUBMISSION (ONLINE): 18/07/2024 FROM 06:55 P.M.

PRE BID MEETING (Mandatory) TO BE HELD ON 02/08/2024 at 1:00 P.M., H.Q.

LAST DATE FOR ON LINE SUBMISSION OF TENDER: 10/08/2024 UP TO 11:30 A.M.

OPENING OF TECHNICAL BID: 12/08/2024 FROM 11:30 A.M. onwards.

OPENING OF FINANCIAL BID: TO BE NOTIFIED LATER ON.

TENDER FEES: NIL

ESTIMATED TENDER VALUE PUT TO TENDER: Rs. 11,48,23,000/-

(Including GST, Cess and other taxes & other charges)

EARNEST MONEY DEPOSIT: 2% OF THE ESTIMATE


(Dr. Gouri Shankar Koner)
Managing Director
W.B.L.D.C. Ltd.



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NOTICE INVITING e-TENDER

The Managing Director, West Bengal Livestock Development Corporation Ltd., LB-2, Sector-III, Salt Lake City, Kolkata-700106 invites on line bids (in two bid system) from reputed resourceful, bonafide agencies, having adequate experience and expertise in **similar nature of work specially in Govt./Semi Govt./ Public sector Undertakings**, registered under the relevant laws in India and fulfilling requisite eligibility criteria as stated in the e-NIT for **“e -Tender on Modernization of Bishnupur Dairy of Kangsabati Milk Union, Bishnupur, Bankura-722122 West Bengal on Turnkey Basis during the year 2024-2025”**.

Earnest Money **2% (Two percent) of the amount put to tender** only is to be remitted online through Govt. of West Bengal e-Tender portal (<https://wbtenders.gov.in>). The payment transaction slip / receipt in pdf format is to be uploaded along with the statutory documents for tender submission.

- 1) In case bidder wants to be exempted from EMD submission, a valid Exemption certificate is to be scanned & uploaded along with the statutory documents in the e-tender portal for participation in the tender.
- 2) After publication of e-tender Notice in the Medias, detailed terms & conditions, BOQ (Bill of Quantities) may be obtained from the website <https://wbtenders.gov.in> at free of cost. Submission of tender by the bidder can be made with the help of Class- 3DSC (Digital Signature Certificate) in this website <https://wbtenders.gov.in>. Notice inviting e-tender will **only be viewed** in the Corporations website www.wbldc.in simultaneously.
- 3) Tenders should normally be floated in two parts one Technical Bid (BID-A) and other Financial Bid (BID-B).
- 4) Tender must be supported by :-

A. TECHNICAL BID : 'BID-A'

(a) **STATUTORY COVER** containing the following documents:

PART 1 (SINGLE FILE MULTIPLE PAGES SCANNED):

1	Upload NIT with Seal and Signature on every pages
2	Upload Scanned Application in the prescribed format (Form - I) and Declaration by the Tenderer (Form - II)
3.	Upload Certificate from Chartered Firm in the official pad (Form - III) and Affidavit Proforma(Form - IV)
4.	Upload Working (Credential) / Bid Capacity (Form-V)
5.	Upload Preliminary Drawing & Authorization of Plant and Machineries.
6.	Upload All Documents / Certificates
7.	Upload The agency / company should have minimum annual turnover of Rs. 50 Crore.



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(b) NON-STATUTORY COVER/MY SPACE containing the following documents:

Sl. No.	Category	Sub Category Description
1	<p>CERTIFICATES –</p> <ul style="list-style-type: none"> ✓ All valid up to date. ✓ All certificates are to be furnished in English Vernacular ✓ Affidavit are not valid ✓ Scanned original copy 	<ul style="list-style-type: none"> ✓ PAN Card of the authorized signatory ✓ Prof. Tax clearance certificate with challan valid up to 31/07/2024. ✓ GST Registration certificate. ✓ IT returns of 2022– 2023 Financial year. ✓ Trade License valid upto 31/07/2024. ✓ Valid documentary proof of: <ul style="list-style-type: none"> ✓ Certificate of updated Income tax Return ✓ Audited balance sheet for the last 3 years. ✓ Work experience including work of Government of West Bengal in last Five years.(as per Form-V). ✓ P.F. & E.S.I. Registration / Declaration ✓ Available Bid Capacity = (A+N+M-B) Where A: Maximum value of Civil Engineering work the updated to the price level of the last 5 year at the rate of 8 percent simple interest a year). N: 1.0 If completion time is more than 6 month. 0.5 If completion time is less than or equal to 6 months M: 3 B: Value at the current price level of existing commitments and ongoing works to be completed during the period of completion of the work for which bids are invalid. ✓ Available bid capacity to be calculated on the basis of prescribed format (FORMAT-V) of the Prospective Tenderer shall not be less than the estimated amount put to tender.
2	<p>COMPANY DETAILS (valid up to Date), scanned original copy</p>	<ul style="list-style-type: none"> i) Registration Certificate under Company Act. (if any). ii) Registered Deed of partnership Firm, Trade License / Article of Association & Memorandum. iii) In Case Proprietorship & Partnership Firms, the Tax Audited Report in 3CD Form along with Balance Sheet & Profit and Loss A/c. for the last 3 (three) years (year just preceding the current Financial Year will be considered as year-1). The balance sheet, Profit & Loss account should be in favor of applicant's name only. iv) Power of Attorney (For Partnership Firm/ Private Limited Company, if any). v) List of Technical staffs along with structure & organization.

3	Credential	<p>(i) Intending tenderers should produce credentials of a similar nature of work (Mechanical . Electrical & Civil) of the minimum value of 40% of the estimated amount put to tender during 5 (five) years prior to the date of issue of this tender notice; Or,</p> <p>(ii) Intending tenderers should produce credentials of 2 (two) similar nature of work (Plant & machineries related in Dairy Industries) each of the minimum value of 30% of the estimated amount put to tender during 5 (five) years prior to the date of issue of this tender notice; Or,</p> <p>(iii) Intending tenderers should produce credentials of one single running work of similar nature of work (Plant & machineries related in Dairy Industries) which has been completed on the extent of 80% or more and value of which is not less than the desired value at (i) above; In case of running works, only those tenderers who will submit the certificate of satisfactory running work under Govt. department / Govt. sponsored Organization / Govt. Undertaking or equivalent competent authority will be eligible for the tender. In the required certificate it should be clearly stated that the work is in progress satisfactorily and also that no penal action has been initiated against the executed agency, i.e., the tenderer.</p> <p>(iv) The joint venture of Mechanical ,Civil and electrical Agency is allowed and may participate in the tender, provided Machineries agency must fulfill the eligibility criteria i.e. 60% of the estimated amount of total works put to tender and electrical agency also must fulfill the eligibility criteria (10% of the estimated amount of electrical works put to tender)</p> <p>N.B:- Estimated amount, tendered amount, date of commencement, date of completion of project and details communicational address of the client (within West Bengal if any also) must be indicated in the Credential Certificate.</p>
4	The Bidder shall not be under a Declaration of Ineligibility for corrupt or fraudulent practices or blacklisted with any of the Government Agency.	Declaration in this regard by the authorized signatory of the bidder.

The vendor must fulfill the above eligibility criteria/ pre-qualification conditions. Technical bid of vendors fulfilling the pre-qualification conditions will only be evaluated by the duly constituted evaluation committee. Bid of vendors not fulfilling the pre-qualification conditions given above will be summarily rejected. Undertaking for subsequent submission of any of the above documents will not be entertained under any circumstances. The authority reserves the right to verify/confirm all original documentary evidence submitted by vendors in support of above mentioned clauses of eligibility criteria.

B. FINANCIAL BID : 'BID-B' (BOQ)

i) The Contractor is to quote the **rate on Percentage BOQ format** of the components as specified in the BOQ. **The percent rate (less or excess from scheduled rate)** will be quoted in the BOQ in one cover (folder) encrypted in the B.O.Q. under Financial Bid. . Single Agency will be selected based on QCBS method at 80:20 Weightage basis.

ii) **Rate quoted shall be including GST, Cess and other taxes / all other charges.**

iii) **Scope of work As per Annexure-A & BOQ**

iv) Only downloaded copy of the B.O.Q. is / are to be uploaded quoting the rate, virus scanned and digitally signed by the contractor.

N.B.: ALL STATUTORY & NON STATUTORY DOCUMENTS(S) ARE REQUIRED TO BE UPLOADED IN ORIGINAL. Neither Photocopy nor cyclostyled literature/Brochure will be accepted.

No Hard copy of bid documents will be entertained for consideration for selection of this tender. Bidders must have to participate the tender through online only at www.wbtenders.gov.in.

NAME OF WORKS:-

Name of the work	Work Details	Estimated Amount put to Tender (Rs.)	Period of completion of the work.
1	2	3	4
e -Tender on Modernization of Bishnupur Dairy of Kangsabati Milk Union, Bishnupur, Bankura- 722122, West Bengal on Turnkey Basis during the year 2024-2025	Details of work schedule item-wise may be found in the Technical Specification (Mechanical, Electrical and Civil) and BOQ	Rs. 11,48,23,000/- including GST, Cess, other taxes / all other charges.	400 (Four Hundred) Days including all

MANAGING DIRECTOR, W.B.L.D.C. LTD., RESERVES THE RIGHT TO CHANGE THE ABOVE SCHEDULE IN CASE OF ANY EXIGENCIES. No objection in this respect will be entertained raised by any Bidder. **Bidders or their authorized representatives need not to be present in the office of the undersigned at the time of opening of the Technical or Financial Bid (BID-B). Decision of Tender committee at every stages of evaluation shall be intimated and uploaded on the website (<https://wbtenders.gov.in>) portal.**

No informal bidder will be entertained in the bid further.

However, at any stage before awarding the contract, the Tender Selection Committee reserves the right to cancel the tender process due to unavoidable circumstances and no claim in this respect will be entertained.


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A. GENERAL INSTRUCTION TO BIDDERS

- 1) Total work is to be completed positively ***within 400 (Four Hundred) Days*** or the time specified in the order from the date of issue of order.
- 2) The intending bidders are requested to submit their tender along with prescribed application form in e-tender portal <https://wbtenders.gov.in> . The software shall make automatic encryption of the Technical as well as Financial Bid and no one shall be allowed to open two Bids prior to the date and time earmarked for opening by the Tendering Authority.
- 3) After evaluation of Technical Bid, those who will qualify, their Financial Bid shall only be opened. The technical proposal (BID-A) will be opened on line **as per evaluation procedure**.
- 4) Evaluation summary report of technical evaluation will be uploaded online to the portal from the office of the undersigned immediately after committee arrives at a decision regarding the same.
- 5) **Intending Bidder(s) must have to attend Pre-Bid meeting held on 02.08.2024 at 1.00 PM at the office of the undersigned.**
- 6) **Site Visit : from 29.07.2024 to 01.08.2024 (from 11.00 AM to 4.00 PM) ; for Site Visit Pl contact : SAE : 7365073408**
- 7) **Intending bidder(s) must have to upload (FORM-V) during participation.**
- 8) **If any bidder fails to attend the pre-bid meeting as well as Site Visit , his/her technical bid will be cancelled without assigning any reason behind it .**
- 9) *The intending Bidder must have a valid licensed electrical Contractor having Electrical supervisor License for HT & LT works, SCC relevant parts, readily present at work site during the execution of electrical works after accepting the Award of Contract (AOC).*
- 10) **Intending bidder must have to submit Drawing, Design/Layout of the scope of work which needs to be approved by the tender Inviting Authority after final selection. After Issuing LOA/AOC selected agency must have to submit Final Drawing within 14 days from the issue of the LOA/AOC. It includes Proper cable (Main /Auxiliary) laying Diagram & Single line Diagram for distribution / Load segment based on site visit and scope of work.**
- 11) The Financial bid may be opened within a very short notice (on the same day afternoon or next day forenoon), once technical evaluation is completed.



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- 12) Bidders having any query / objection / claim regarding the evaluation or any decision taken by the tender selection committee may communicate in writing to the Corporation's official mail id info@wbldc.in within 48 hrs of taking such decision. Communications received after the due time, will not be entertained for consideration in any way.
- 13) For further information, the bidders are requested to please contact the undersigned.
- 14) **No Tender will be accepted across the table and no such receipt will be issued thereon.**
- 15) In the event of any discrepancy between downloaded tender document and master copy of the same available in the office then the latter will be accepted & binding on the bidder. No claim will be entertained.
- 16) N.I.T. to be downloaded properly and to be uploaded duly digitally signed as a token of acceptance by the bidder with all the general & special (if any) terms & conditions laid down in the tender document.
- 17) **In case quoting the rate anywhere other than BOQ, the tender is liable to be summarily rejected.**
- 18) The Bidder is required to carefully study all the tender documents and prepare his tender to comply with all the provisions thereof. Submission of a Tender shall be taken as evidence and confirmation that the Bidder has acknowledged all the provisions of the Tender Documents and has fully acquainted himself with site conditions and all factors which may influence the preparation of his Tender. Negligence of the Bidder to observe instructions in the matter of preparation of his Tender shall be attributable to him and shall not be a ground for securing relief from any error as may be found or discrepancies as may be contained in his Tender and would not give him any liberty to withdraw his Tender after the same being opened.
- 19) All the tender documents including N.I.T., terms & conditions for submission of tender & B.O.Q. will be the part & parcel of the bid documents.
- 20) The undersigned reserves the right to cancel the tender at any stage without assigning any reason thereof.
- 21) The offer shall remain valid for **400 days (Four Hundred)** the date of opening of the financial bid. **Selected Bidder must have to complete the Job in due time, no extension will be entertained except on emergency. Agency will be penalized in case of unjustified delayed in schedule time frame of work.**
- 22) Test certificate of cable and other equipment shall have to be submitted at site with the supply.

ELIGIBILITY CRITERIA FOR PARTICIPATION IN THE TENDER

- 1) The contractors who have been delisted or debarred by any government department shall not be eligible in any way.
- 2) Contractors must have work credentials of both Mechanical, Civil & Electrical with related works with at least 5years experience in the field.
- 3) **Intending bidder(s) must have their own arrangement in time for all equipment's' related to construction including different types of heavy equipment commonly used in the construction (Civil Works).**
- 4) Having experience to build up/ Remodeling work related to Dairy Plant **preferably at similar work anywhere in India.**
- 5) Credentials for Plant & Machinery works as Prime agency will only be taken into account. That means tie up with one or more company for execution of similar nature of work cannot be claimed as a sole credential of the claimant company.
- 6) **Intending bidder(s) must have to submit Drawing /Design and Lay out as per scope of work during submission of tender (online) in due time otherwise entire bid may be rejected . Site visit will be mandatory and if done queries will be cleared during Pre-Bid meeting .**
- 7) **Approve rate (percentage BOQ on put to tender amount) based on Final Selection as per criteria including GST , labour Cess and all taxes and Charges . If any changes in GST and other Govt. Taxes as well as charges as per latest Govt. Circular occur during implementation period (Job progressive period), it will be taken juristically as per Govt rules as decided by the Tender Inviting Authority.**
- 8) Valid up to date clearance of Income Tax return, Professional Tax Clearance Certificate, P.T. (Deposit Challan), PAN Card, GST Registration Certificate, PF & ESI certificate / declaration, Valid Trade License with the Technical Bid Documents, Income Tax Acknowledgement Receipt for latest assessment year to be submitted. [Non statutory Documents].
- 9) Registered Partnership Deed (for Partnership Firm only) along with Power of Attorney to be submitted along with application, if applicable. (Non-Statutory documents)
- 10) **Implementing agency must have to follow the Guidelines of “Karmashree Scheme” during engagement of unskilled workers for the said Job as per G.O No. 1138(Sec)-PRD-33011/1/2024-MGNREGA SEC dated 07.03.2024 of Spl. Secretary , P & RD , Govt. of W.B .**
- 11) Registered Unemployed Engineers' Co-operative Societies are required to furnish valid Bye Law, Current Audit Report, Current N.O.C. from A.R.C.S., Minutes of last A.G.M. and also submit documents of the society consists at least 10 (ten) members out of which at least 60% should hold degree or diploma in any branch in Engineering.
- 12) Prevailing safety norms has to be followed so that LTI (Loss of time due to injury) is zero.

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Managing Director

W.B.L.D.C. Ltd



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EVALUATION OF TENDERS

During the tender Evaluation Process, the **Technical proposal (BID-A)** will be opened first. Those bidders who will qualify the **Technical proposal** as described in BID-A containing **Statutory/Non statutory documents including credentials** will be identified and after qualifying Technical Score as mention below then only their **Financial Cover (BID-B)** shall be opened. The **Financial cover (BID-B)** will not be opened and will be summarily rejected **if that Bidder fails to meet the technical requirements participating in the tender as well as Presentation which will be intimated via Official e-Mail ID mentioned in floated tender in 24 hrs. in advance** . Technical Evaluation of the Tender will be held on two parts, i.e. opening & evaluation of Presentation (scoring method) of tender. The Tender Inviting Authority reserves the right to relax the minimum qualification criteria for the work if necessary. The Tender Inviting & Accepting Authority through an 'Evaluation Committee' will determine the eligibility of each bidder, considering the following criteria: -

- a) Financial Capacity.
- b) Technical capability comprising of personnel & equipment capability .
- c) **Experience in similar nature of work through credentials.**

While evaluation the committee may summon the Bidders & seek clarification / information or additional documents in original hard copy of any of the documents already submitted & if these are not produced within the stipulated time frame, their proposals will be liable for rejection.

The credentials will broadly cover the following areas –

- Competence in all the credential activities and sectors noted in the campaign outline at invitation for bid section of this document, in case a bidder does not meet the criteria for eligibility, his Technical Bids will not be opened.
- For all bidders eligible according to the prescribed criteria, the completed /ongoing Credentials will be evaluated by a technical Committee **on presentation** that may include external expert/s. The qualified bidders will be given the opportunity to make presentation/s to the Committee on a specified date onward. The criteria for evaluation of the Technical / scope proposal are at below.

Sl. No.	Bid Component (Technical Offer Evaluation)	Total Marks	Marks Scored
1.	Presentation/Demonstration of completed / ongoing of similar works AMC related in Govt Sector/Private sectors on specific date to be intimated through official Mail ID (at least two sets of creative to be submitted /presented for evaluation)	40	
2.	The agency/company should have turnover of 3 Cr. Yearly with State Government. Financial turnover during the last financial year (either 2021-22 or 2022-23 FY) : (1) Rs.50,00,00,001and above=10marks (2) Rs. 20,00,00,001 to Rs. 50,00,00,000/- = 7 Marks (3) Rs. 5,00,00,001to Rs. 20,00,00,000/- = 3 Marks (4) Rs. 1,00,00,001/- to Rs. 5,00,00,000/- = 2 Marks (5) Rs. below 1,00,00,000/- = 1 Marks	10	
3.	The agency/company should have experience under any department of State Government for similar works (satisfactory completion certificate to be provided).	10	
4	Details Organization Set up (Comprises Board ,Project Manager, Civil engineer , Mechanical, Electrical Engineer , Admin & Accounts Assistant, Project coordinator	20	
5	Authorization /Approval from Manufacturer of Equipment/machineries'	20	
Total: Marks for Technical Evaluation :		100	



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Intending bidder(s) must have to attend **Pre-Bid meeting held on 02/08/2024 at 1.00 P.M** at the office of the undersigned, if any bidder fails to attend the meeting and site visit but participate in the said tender his/her bid will be rejected as decided by the tender Inviting Authority (TID) without showing any reason.

The Evaluation Committee shall evaluate and rank each Technical Proposal on the basis of the Proposal's responsiveness to the scope using the evaluation criteria and score system specified above. Each Technical Proposal shall receive a technical score. The Proposal shall be rejected if it does not achieve the minimum technical mark of **50 (Fifty)** out of maximum of **100 (Hundred)** marks.

Final selection based on based on L-1 bidder in Financial Part in Financial bid . Financial bid will be opened only technically qualified bidders.

Scoring will be evaluated only after qualifying the criteria for submission of **Statutory & Non-Statutory documents** as stated in NIT by the intending Bidder(s).

Bidders would be at liberty to point out any ambiguities, contradictions, omissions etc. seeking clarifications thereof or interpretation of any of the Clause(s), conditions etc. of the tender documents before the Tender Inviting Authority inwriting within a period of 2 (two) days from the date of publication of tender documents and beyond such period no Representation in that behalf will be entertained by the Tender Inviting Authority. Written clarification or amendments etc, as may be issued by the tender inviting authority in pursuance to the representation made by the Bidders shall be final and binding on the Bidders and shall form part of the tender documents. Tender Inviting Authority, however, reserves its right to have pre bid conference with the Bidders.


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TENDER TERMS & CONDITIONS

01. OPENING OF THE TECHNICAL PROPOSAL:

- (a) Technical proposal will be opened by the authorized officer of the undersigned, electronically from the website using their Digital Signature Certificate (DSC).
- (b) Cover (folder) for Statutory Documents and non statutory documents will be opened. If there is any deficiency in the **Statutory Documents** the tender will summarily be rejected.
- (c) Decrypted (transformed into readable formats) documents of the Statutory & Non statutory Cover will be downloaded and handed over to the Tender Evaluation Committee.
- (d) Pursuant to scrutiny & decision of the Tender Evaluation Committee the summary list of eligible bidders will be uploaded in the web portals.
- (e) The Financial Cover (BID-B) of those bidders passing the technical requirements will only be opened. **THE DECISION OF UNDERSIGNED/TENDER COMMITTEE WILL BE FINAL & BINDING UPON THE BIDDER IN THIS RESPECT.**

02. PENALTY FOR SUPPRESSION / DISTORTION OF FACTS:-

If any bidder fails to produce the original hard copies of the documents (specially Completion Certificates or Work Orders as proof of credential) or any other documents on demand of the Tender Opening Authority within a specified time frame or if any deviation is detected in the hard copies from the uploaded soft copies or if there is any suppression of facts, the bidder will be suspended from participating in the tenders on e-Tender platform for 3 (three) years.

The Contractors are bound by the terms and conditions of W.B.F No. 2911 with relevant changes'

03. AWARD OF CONTRACT:-

The Tender Inviting Authority reserves the right to accept or reject any tender and to cancel the tendering process and reject all tenders at any time and prior to the issue of Award of Contract without incurring any liability to the affected Tenderer or Tenderers thereby or shall have any obligation to inform the affected Bidder or Bidders of the ground for Employer's action. The Bidder who's Bid has been accepted will be notified by the Tender Inviting & Accepting Authority through acceptance letter cum Award of Contract.

04. PERFORMANCE GUARANTY:

- (i) Upon selection of the bidder in the Financial evaluation and after issuance of 'Letter of Acceptance' the successful bidder have to produce a Performance guaranty in shape of Bank Guarantee (as per specimen format) **for 2 (Two) Year** of an amount of **5 % of the Tender Value**, payable to the West Bengal Livestock Development Corporation Ltd., Kolkata.
- (ii) It may be noted by the intending bidders that, deposit of Performance guaranty is a pre-requisite for executing the agreement and issuance of 'Award of Contract' thereafter.

05. AGREEMENT

The corporation will execute an agreement with the successful bidder *as per the prescribed format or as will deem fit as per the condition in a Non-judicial Stamp Paper worth Rs.100/-* (Rupees One Hundred) only to be provided by the successful bidder. The notification of award will constitute the formation of the Contract or the agreement between the Tender Accepting Authority and the successful Bidder. All the tender documents including NIT & B.O.Q. will be the part & parcel of the Contract Documents. Prescribed Agreement must be signed by the both parties, the Authorized Signatories of the Corporation & Tendering firm concerned. The Original agreement will be retained by the Corporation in the concerned case file and the photocopy of the same will be provided to the concerned firm.

06. SECURITY MONEY DEPOSIT

Successful tenderer shall be required to deposit Security Money at the **rate of 10% (Ten P.C.)** of the contract value. However earnest money of the successful tenderer may be converted/adjusted with the Security Money and the balance Security Money (8% of contract value) to be deducted from each and every submission of "running" bill to make **10% security deposit as per terms of the contract. (As per G'o. No. 201-F(Y) Dated-18/01/2021** of Finance Department Govt. of WB. The Security Money will not carry any interest.

In the event of non-completion or defective work by the contractor the Corporation will have the right to get the work done through any agency at the risk and cost of the contractor and also the Corporation will have the right to forfeit the security money in full or part at its discretion which will be binding upon the contractor.

The security money will be released after one month on expiry of Defect Liability Period and satisfactory remedy or rectification or amendment or modification or all, and settlement of accounts.

As per memorandum no. 4608-F (Y) dated 18.07.2018 of Finance Department (Audit Branch) Additional Performance Security @ 10 % of the tendered amount shall be obtained from the successful bidder if the accepted **bid value is 80% or less of the estimate put to tender**. The Additional Performance Security shall be submitted in the form of Bank Guarantee from any schedule bank before issuance of the Work Order.

If the bidder fails to submit the **additional performance security within 14 working days** from the date of issuance of LOA, his earnest money will be forfeited and other necessary actions as per NIT like black listing of the agency, etc. may be taken. The Bank Guarantee shall have to be valid up to the end of the contract period and shall be renewed accordingly if required.

The Bank Guarantee shall be release immediately on successful completion of work. If the bidder fails to complete the work successfully the Additional Performance Security shall be forfeited at any time during pendency of the contract period after serving notice to the contractor.

Necessary provisions regarding deduction of security deposit from progressive bills of the agency as per relevant clauses of the contract shall in no way be altered/ affected by provision of this Additional Performance Security.

07. PENAL MEASURE

If the firm withdraws tender as a whole or for any particular item at any stage during the tenure of tender or fails/refuses to enter into written agreement once the rate for any/all items(s) is/are accepted within the time specified when requested to do so by this Corporation. Such firms offer will not be taken into consideration in future & shall liable to be black listed for 3 (three) years.

i) The security money deposit furnished by a bidder is liable to forfeit in full along with cancellation of order without prejudice in the event of failure/refusal to maintain the terms & conditions of tender and/or contracted specification and/or quality/quantity and the authority will be at liberty to terminate the contract as a whole or part.

ii) In consequence of submission of false or fabricated documents by any firm/ company for participating in the tender, if proved later on shall liable to be Black Listed for 3 (three) years.

- iii) Quoting absurdly high or low rate in opinion of tender selection committee, with the intention to vitiate the tender process will be dealt with in the context of existing tender rules/norms under Govt. of W.B.
- iv) Any legal dispute arising during the tender process shall be dealt only under the jurisdiction of Calcutta High Court.
- v) **Total work in said location is to be completed positively within 400 (Four Hundred) Days or the time specified in the order from the date of issue of order.**

08. PAYMENT

Any request for Advance Payment will not be entertained. However, in exceptional cases, advance amount up to 10% advance may be allowed against 110% Bank Guaranty

- 1. Bills to be produced in DUPLICATE.
- 2. ***The payment shall be made as per projected Performance Chart both Physical and Financial submitted by the Agency within 14 days of Issuing of Award of Contract based on Job completion period on approved Design/Lay-Out.***
- 3. However, as per instruction of the authority from time to time, the successful bidder shall have to produce the **BAR CHART** in terms of % of completion of work and Physical progress of the work accordingly
- 4. Payment shall be made after executing the order satisfactory in all respect.
- 5. **For Plant and Machineries : All payment will be made as per performance Chart (Physical & Financial) submitted by the agency prior to start the Job as above. However on prior approval from Competent Authority ,**
 - a) **75% Payment may be made after receiving the equipment's at site.**
 - b) **15% Payment may be made after successful installation & commissioning.**
 - c) **10% Payment may be made after one month of successful running of the equipment's.**

However, no interest shall be paid to the firm, if the payment is delayed due to whatsoever reasons. The payment of bills shall be withheld in case of violation of any tender terms & conditions.

09. GENERAL:

Unless otherwise stipulated all the works are to be done as per general conditions and general Specifications of the "Departmental Schedule" which means the Public Works Department, Schedule of Rates for works in West Bengal for the working area including up to date addenda and corrigenda, if any. The project should be executed as per IS code/IRC/MOST/MORTH standards regarding the quality of materials and various item of works. For general conditions and general specifications of items of works related to supply and carriage works, not appearing in the aforesaid Schedule of Rates in force including up-to-date addenda and corrigenda, if any, issued by the competent authority as applicable for the working at the time of submission of tender for the working area will be considered.

10. TERMS & CONDITIONS IN ORDER TO PRECEDENCE:

If the stipulations of the various components of the contract documents be at variance in any respect, one will override the other (only in so far as those are at variance) in the order of precedence as given below:

- (a) Special terms and conditions
- (b) Special specifications (Scope of work)
- (c) General instructions.
- (d) Notice Inviting e-Tender
- (e) Schedule of probable items with approximate quantities
- (f) Tender Form.

All works covered in the clause appearing hereinafter shall be deemed to form a part of the appropriate item or items of works appearing in the schedule whether specifically mentioned in any clause or not and the rates quoted shall include all such works unless it is otherwise mentioned that extra payment will be made for particular works.

11. ENGINEER-IN-CHARGE AND COMMENCEMENT OF WORK:

The word "Engineer-In-Charge" means the Executive Engineer, WBLDC Ltd. The word "Department" appearing anywhere in the tender documents mean WBLDC Ltd. (A Government of West Bengal Undertaking). The word "approved" appearing anywhere in the documents means approved by the Engineer-In-Charge. The work shall have to be taken up within seven days of the receipt of the work order. Failure to do so will constitute a violation of the contract stipulation as regards proportionate progress and timely completion of work and the contractor will thereby make himself liable to pay compensation or other penal action as per stipulation of the printed tender form.

12. CONDITION IN EXTENDED PERIOD:

When an extension of time for completion of work is authorized by the Engineer-in-charge , it will be taken for granted that the validity of the contract is extended automatically up to the extended period with all terms and conditions rates , etc. remaining unaltered , i.e the tender is revalidated up to the extended period .

The head of the corporation may allow maximum period of 14 days after the stipulated date of completion . After that a penalty of 0.50 % which will be deducted from his R/A bill / Final bill as the case may be for each week of delay up to a maximum of 2.0 % on the amount put to tender . Penalty will be adjusted from Security Deposit / Performance Bank guarantee.

13. CO-OPERATION AND DAMAGES AND COMPLETION OF WORK:

All works are to be carried out in close co-operation with the Department and other contract or contracts that may be working in the area of work. The work should also be carried out with due regard to the convenience of the road/building users and occupants, if any. All arrangements and programme of work must be adjusted accordingly. All precautions must be taken to guard against chances of injury or accidents to workers, road users, occupants etc. The contractor must see that all damages to any property which, in the opinion of the Engineer-In-Charge are due to the negligence of the contractor are promptly rectified by the contractor at his own cost and expenses and according to the direction and satisfaction of the Engineer-In-Charge.

14. CONTRACTOR'S SITE OFFICE:

The contractor shall have an office adjacent to the work as may be approved by the Engineer-In-Charge where all directions and notice of any kind whatsoever which the Engineer-In-Charge or his representative may desire to give to the contractor in connection with the contract may be left and same when left at or sent by post to such office or delivered to the Contractor's authorized agent or representative shall be deemed to the sufficiently served upon the contractor.

15. INCIDENTAL AND OTHER CHARGES:

The cost of all materials, hire charges to Tools and plants, Labour, Corporation/Municipal Fees for water supply, Royalty or road materials (if any), Electricity and other charges of Municipalities or statutory Bodies, Ferry charges, Toll Charges, Loading and unloading charges, Handling chargers overhead charges etc. will be deemed to have been covered by the rates quoted by the contractor except G.S.T. (Central and/or State), Income Tax, Terminal Tax, Turnover Tax etc. All other charges for the execution of the complete or finished work or in case of supply of materials and for carriage to the entire satisfaction of the Engineer-In-charge of the work. No claim whatsoever in this respect will be entertained.

16. AUTHORISED REPRESENTATIVE OF CONTRACTOR:

The contractor shall not assign the agreement or sublet any portion of the work. The contractor, may however, appoint and authorize representative in respect of one or more of the following purpose only-

- a) General day to day management of work.
- b) To attend measurements when taken by the Departmental Officers and sign the records of such measurements which will be taken of acceptance by the Contractor. The selection of the authorized representatives subject to the prior approval of the Engineer concerned and the contractor shall in writing seek such approval of the Engineer giving therein the name of work, Tender No., the Name, Address and the specimen signature of the representative he wants to appoint and the specific purposes as specified the representative will be authorized for even after first approval, the Engineer may issue at any subsequent date.

Revised directions about such authorized representative and the contractor shall be bound to abide by such directions. The Engineer shall not be bound to assign any reason for any of his directions with regard to the appointment of authorized representative. Any notice correspondence etc. issued to the authorized representative or left at his address, will be deemed to have been issued to the contractor himself.

17. POWER OF ATTORNEY:

The Provision of the power of attorney, if any, must be subject to the approval of the Department. Otherwise the WBLDC Ltd. shall not be bound to take cognizance of such of attorney. ***Third Party Engagement by The L-1 Agency (after issuing AOC) in exigency also is Strictly restricted.***

18. EXTENSION OF TIME:

For cogent reasons over which the contractor will have no control and which will retard the progress, extension of time for the period lost will be granted on receipt of application from the contractor before the expiry date of contract. No claim whatsoever for idle labour, additional establishment, cost of materials and labour and hire charges of tools & Plants etc., would be entertained under any circumstances. The contractor should consider the above factor while quoting his rate. Applications for such extension of time should be submitted by the contractor.

19. MATERIALS TO BE USED:

Suggested Brand Name/ names of different type of materials are to be use for this work as specified in PWD (WB) Schedule of Rate or as per direction of Engineer-In-Charge.

20. CONTRACTOR'S GODOWN:

The contractor must provide suitable godowns for cement and other materials at the site of work. The cement godown is to be sufficient in capacity and it must be water tight with either an elevated floor with proper ventilation arrangement underneath the floor or if solid raised flooring is made, cement is to be stored on bamboo or timber tonnage to the satisfaction of the Engineer-In-Charge. No separate payment will be made for these godowns or for the store yard. Any cement which is found at the time of use to have been damaged shall be rejected and must immediately to remove from the site by the Contractor or deposited as directed by the Engineer-In-Charge.

21. ARRANGEMENT OF LAND:

The contractor will arrange land for installation of his Plants and Machineries, his godown, store yard, labour camp etc. at his own cost for the execution of the work. Departmental Godown, if available may be spared for the purpose on usual charges as fixed by the Competent Authority.

22. USE OF GOVERNMENT LAND:

The contractor shall make his own arrangements for storage of tools, plant, equipments; materials etc. of adequate capacity and shall clear and remove on completion of work and shed, huts etc. which he might have erected in Government Land. Before using any space in Government Land of any purpose whatsoever, approval of the Engineer-In-charge should be needed.

23. CLEARING OF MATERIALS:

Before starting any work, work site, where necessary, must be properly dressed after cutting clearing all varieties of jungles shrubs, bamboo clusters or any undesirable vegetation from the alignment or site of works on completion of works all temporary structure or obstruction including some pipes in underground work, if any, must also be removed. All scars of construction shall be obliterated and the whole site shall be left in a clear and neat manner to the satisfaction of the Engineer-In-Charge. No separate payment shall be made for all these works, the cost thereof being deemed to have been included in the rates of various items of works quoted by the contractor in the schedule of probable items of works.

24. SUNDRY MATERIALS:

The contractor must erect temporary pillars, master pillars etc. as may be required in suitable places as directed by the Engineer-In-Charge at his own cost before starting and during the work by which the departmental staff will check Levels, layout different works and fix up alignment and the contractor shall have to maintain and protect the same till completion of the work. All petty and sundry material like, pegs, strings, nails, flakes instruments etc. and also skill labour require for setting out the levels for laying out difference structures and alignment shall also be supplied by the contractor as per direction of Engineer-in-Charge at his own cost without any extra claim towards the department.

25. SUPPLEMENTARY/ADDITIONAL ITEM OF WORKS:

Notwithstanding the provisions made in the related tender Form any item of the work which can be legitimately be considered as not stipulated in the specific schedule of probable items of work but has become necessary as a reasonable contingent item during actual execution of work will have to be done by then Contractor if so, directed by the Engineer-In-Charge and the rates will be fixed with manner as stated below:-

- (a) Rate of Supplementary items shall be analyzed in the 1st instant extended possible from the rates of the allied items of work appearing in the tender schedule.
- (b) Rate of supplementary items shall be analyzed to the maximum extent possible from rates of the allied items of work appearing in the P.W Department schedule of rates for Building and S&P along with all addenda and corrigenda of probable items of work forming part of tender document Rates for the working area enforce at the time of N.I.T.
- (c) In Case, addition items do not appear in the above P.W Department Schedule of Rates, such items for the works shall be paid at the rates entered in the Public Works (Roads) Department Schedule of Rates along with all addenda and corrigenda for the working area enforce at the time of N.I.T.

(d) In case of any change in quantity due to any kind of alteration during actual work, the contractor will not be liable to put up any claim against any shortfall of quantity in execution. However if it is needed to take up any item in excess or supplement to the priced quantity, the payment for the extra work will be paid as per the prevailing govt. rule.

Unbalanced market rates shall never be allowed Contractual percentage shall only be applicable with regard to the portions of the analysis. It may be noted that the cases of supplementary items of claim shall not be entertained unless supported by entries in the Measurement Book or any written order from the tender accepting authority.

26. COVERED UP WORKS:

When one item of work is to be covered up by another item of work the latter item shall not be done before the formal Item has been measure up and has been inspected by the Engineer-in-charge as the authorized representatives of the Engineer-In-Charge and order given by him or proceeding with the latter item of work. When however, this is not possible for practical reasons, the Sub-assistant Engineer, if so, authorized may do this inspection in respect of minor works and issue order regarding the latter item.

27. APPROVAL OF SAMPLE:

Samples of all materials to be supplied by the contractor and to be used in the work shall have to be approved by the Engineer-in-charge and checking the quality of such materials shall have to be done by the concerned Department prior to utilization in work.

28. INCIDENTAL AND OTHER CHARGES :

The contractor shall have to arrange for their own source of energy for operation of equipments and machineries, driving of pumping set, illuminating work site, office etc. that may be necessary in difference stages of execution of work. No facility of any sort will be provided for utilization of the departmental sources of energy existing at site of work. Arrangement for obtaining water for the work should also be made by the contractor at his own cost. All cost for getting energy and / or for any purpose whatsoever will have to be borne by the contractor for which no claim will be entertained.

The cost of all materials, hire charges to Tools and plants, Labour, Corporation/Municipal Fees for water supply, food staff, medical aids ,Royalty or road materials (if any), Electricity and other charges of Municipalities or statutory Bodies, Ferry charges, Toll Charges, Loading and unloading charges, Handling chargers overhead charges etc. will be deemed to have been covered by the rates quoted by the contractor inclusive of Sales Tax (Central and/or State), Income Tax, Terminal Tax, Turnover Tax etc., all other charges for the execution of the complete or finished work or in case of supply of materials and for carriage to the entire satisfaction of the Engineer-In-charge of the work.

29. DRAWINGS:

Intending Bidder must have to submit Drawing/Design and Lay out of the entire Job based on Site visit in due time .All works shall be carried out in conformity with *the drawings /Lay Out approved by this Department*. After Selection the Approved Agency have to Submit projected Lay out of Plan (Planning of job completion) both Physical as well as Financial based on approved Drawing within 14 Days from the issuing of Award of Contract . Necessary Payment will be made based on such projection as per payment terms and conditions. However, the Contractor shall have to carry out all the works according to the departmental general arrangement drawing and detail working drawings to be supplied by the Department from time to time.

30. UNSERVICEABLE MATERIALS:

The Contractor shall remove all unserviceable materials, obtained during execution at place as directed. The contractor shall dressed up and clear the work site after completion of work as per direction of the Engineer-in-Charge. No extra payment will be made on this account.

31. CONTRACTOR'S RISK FOR LOSS OR DAMAGE:

All risk on account of railway or road carriage or carriage by boat including loss or damage of vehicles, boats, barges, materials or labour, if any, will have to be borne by the contractor without any extra claim towards department.

32. IDLE LABOUR:

Whatever the reasons may be no claim of idle labour, enhancement of labour rate additional establishment cost, cost of TOLL and hire and labour charges of tools and plants Railway freight etc. would be entertained under any circumstances.

33. CHARGES AND FEES PAYABLE BY CONTRACTOR:

- a) The contractor shall be all notices and pay all fees required to be given or paid by any statute or any regulation or by law and any local or other statutory authority which may be applicable to the works and shall keep the department against all penalties and liability of every kinds for breach of such statute regulation or law.
- b) The Contractor shall have save harmless and indemnify the department from and against all claims demands suit and proceedings for or an account of infringement of any patent rights design, trade mark of name of other Protected write in respect of any constructional Plant machine, work, materials, thing or process used for or in connection with works or temporary works or any of them.

34. ISSUE OF DEPARTMENTAL TOOLS AND PLANTS:

All Tools and Plants required for the work will have to be supplied by the Contractor at his own cost, all cost of fuel and stores for proper running of the Tools and Plants must be borne by the Contractor.

35. REALISATION OF DEPARTMENTAL CLAIMS:

Any some of money due and payable to the contractor (including security deposit returnable to him) under this contract may be appropriated by the Government and set off against any claim of Government for the payment of sum of money arising out of this contract or under any other contract made by the contractor with the Government.

36. COMPLIANCE OF DIFFERENT ACTS:

The contractor shall comply with the provisions of the Apprentices Act, 1961, Minimum Wages Act, 1848. Contract Labour (Regulation and Abolition) Act 1970 and the rules and orders issued hereunder from time to time. If he fails to do so, the Engineer, may at his discretions, take necessary measure over the contract. The Contractor shall also make himself for any pecuniary liabilities arising out on account of any violation of the provision of the said Act(s). The Contractor must obtain necessary certificate and license from the concerned Registering Office under the Contract Labour (Regulation & Abolition) Act, 1970. The contractor shall be bound to furnish the Engineer-In-Charge all the returns particulars or date as are called for from time to time in connection with implementation of the provisions of the above Acts and Rules and timely submission of the same, failing which the contractor will be liable for breach of contract and the Engineer-In-Charge may at his discretion take necessary measures over the contract.

37. SAFETY, SECURITY AND PROTECTION OF THE ENVIRONMENT:

The Contractor shall, throughout the execution and completion of the Works and the remedying of any defects therein:

- a) Have full regard for the safety of all persons and the Works (so far as the same are not completed or occupied by the department),
- b) Provide and maintain at his own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the Engineer-in-Charge for the protection of the Works or for the safety and convenience of the public or others,
- c) Ensure that all lights provided by the Contractor shall be screened so as not to interfere with any signal light of the railways or with any traffic or signal lights of any local or other authority.
- d) Take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

38. TRANSPORTATION ARRANGEMENT:

The contractor shall arrange for all means of transport including Railways Wagons required for carriage and supply of materials and also the materials required for the construction work. The Department may however, at their own discretion grant necessary certificates, if required, for procurement of railways Wagons. But, in case of failure of the Department to help the Contractor in this respect, the contractor will have to procure wagons at his own initiative and no claim whatever on the ground of non-availability of wagons shall be entertained under any circumstances. If Railways Wagons are not available, the Contractor will have to depend on transport of materials by road as necessary to complete the work in time and the contractor must consider this aspect while quoting rate.

39. PROGRAMME OF WORK:

Before actual commencement of work the contractor shall submit a programme of construction of work clearly showing the materials men and equipment. The contractor will submit a programme of construction in the pattern of Bar Chart or Critical Path Method and a time table divided into four equal periods of progress of work to complete the work within the specific period for approval of the Engineer-In-Charge who reserves the right to make addition, alterations and substitutions to such programme in consultation with the contractor and such approved programme shall be adhered to by the contractor unless the same is subsequently found impracticable in part or full in the, opinion of the Engineer-In-Charge and is modified by him. The contractor must pray in writing, showing sufficient reasons therein, for modification of programme.

The conditions laid down tender form regarding the division of total period and progress to work and the time table therefore as provided in the said clause shall be deemed to have been sufficiently complied with it the actual progress of work does not fall short of the progress laid down in the approved time table for one fourth, half and three fourth of time allowed for the work.

40. SETTING OUT OF THE WORK:

The contractor shall be responsible for the true and perfect setting out of the work and for the correctness of the position, levels, dimensions and alignments of all parts of work, if any, rectification or adjustment becomes necessary the contractor shall have to do the same at his own cost according to the direction of the Engineer-In-Charge during progress of works. If any, errors appears or arise in respect of position, level, dimensions or alignment of any part of the work contractor shall at his own cost rectify such defects to the satisfaction of the Engineer-In-Charge. Any setting out that may be done or checked by either of them shall not in any way relieve the contractor or their responsibility for correctness and rectification thereof.

41. PRECAUTIONS DURING WORKS:

The contractor shall carefully execute the work without disturbing or damaging underground or overhead service utilities viz. Electricity, Telephones, Gas, Water pipes, Sewers etc. in case disturbances of service utilities is found unavoidable the matter should immediately be brought to the notice of the Engineer-In-Charge and necessary precautionary measures as would be directed by the Engineer-In-Charge shall be carried out at the cost and expenses of the contractor. If the service utilities are damaged or disturbed in any way by the contractor during execution of the work, the cost of rectification or restoration of damages as would be fixed by the Engineer will be recovered from the contractor.

42. NIGHT WORK:

The contractor shall not ordinarily be allowed to execute the work at night. The contractor may however, have to execute the work at night, if instructed by the Engineer-in-Charge. For true technical or emergent reasons the work may require to be executed during the night also according to the instruction of the Engineer-in-Charge. In that case the contractor shall have to arrange for separate set of labour with sufficient and satisfactory lighting arrangement for the night work. No extra payment whatever, in this respect will be made to the contractor.

43. TESTING OF QUALITIES OF MATERIALS & WORKMANSHIP :

All materials and workmanship shall be in accordance with the specifications laid down in the contract and the Engineer-In-Charge reserves the right to test, examine and measure the materials/workmanship direct at the place of manufacture, fabrication or ***at the site of works*** or any suitable place. The contractor shall provide such assistance, instrument machine, labour and materials as the Engineer-In-Charge may require for examining, measuring and testing the works and quality, weight or quantity of materials used and shall supply samples for testing as may be selected and required by the Engineer- In-Charge without any extra cost. Besides this, he will carry out tests from outside Laboratory as per instruction of Engineer-In-Charge. ***The cost of all such tests would be borne by the agency irrespective of Site Lab facilities with all equipment.***

44. TIMELY COMPLETION OF WORK:

All the supply and the work must have to be completed in all respects within the time specified in Notice Inviting Tender from the date of work order. Time for completion as specified in the tender shall be deemed to be the essence of the contract.

45. PROCUREMENT OF MATERIALS:

All materials required for complete execution of the work shall be supplied by the contractor after procurement from authorized and approved source.

46. REJECTION OF MATERIALS:

All materials brought to the site must be approved by the Engineer-In-Charge. Rejected materials must be removed by the Contractor from the site within 24 hours of the issue of order to that effect. In case of non-compliance of such order, the Engineer-In-Charge shall have the authority to cause such removal at the cost and expense of the contractor and the contractor shall not be entitled to claim for any loss or damage of that account.

47. IMPLIMENTS OF WORK IN ITEMS:

Except of such items as are included in the Specific Priced Schedule of probable items and approximate quantities no separate charges shall be paid for traffic control measures, shoring, shuttering, dewatering, curing etc. and the rates of respective items or works are to be deemed as inclusive of the same. **Intending Bidders is solely responsible for Temporary Electric Connection as well as Consumption unit with his own discretion.**

48. If required, related civil work to be performed by the intending bidder within this scope of work, no extra fund will be allowed for such cases except major work or as desired by the Tender Inviting Authority / Engineer-In-Charge.

49. FORCE CLOSURE:

In case of force closure or abandonment of the works by the Department the contractor will be eligible to be paid for the finished work and reimbursement of expenses actually incurred but not for any losses.

50. TENDER'S RATE:

The contractor should note that the tender is strictly based on the rates quoted by the Contractor on the priced schedule of probable item of work. The quantities for various other items of works as shown in the priced schedule of probable items of works are based on the drawing and design prepared by the Department. If variations become necessary due to design consideration and as per actual site conditions, those have to be done by the contractor at the time of execution at the rate prescribed in the tender clause. No conditional rate will be allowed in any case.

51. DELAY DUE TO MODIFICATION OF DRAWING AND DESIGN:

The contractor shall not be entitled for any compensation for any loss suffered by him due to delays arising out of modification of the work due to non-delivery of the possession of site. The whole work will have to be executed as per Departmental drawings available in this connection at the tender rate.

52. ADDITIONAL CONDITIONS:

- a) As per Finance (Taxation) Department of Income Tax Will be made from each bill of the contractor as per applicable rate in force.
- b) Labour welfare Cess will be deducted @ 1(one) % of gross bill value as per rule. The Contractor will remain liable for following with West Bengal Contract Labour(Regulation & Abolition) Rules in force &necessary. Certificates from appropriate authority to be submitted within 7 (Seven) days from the date of the work order'
- c) **Contractor / Agency must have to submit the list of unskilled labour as per Annexure-VII of Karmashree Scheme as mentioned Clause no.8 of Eligibility Criteria.**



WEST BENGAL LIVESTOCK DEVELOPMENT CORPORATION LIMITED

(A Govt. Of West Bengal Undertaking)

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Website: www.wbldc.in Toll Free No. 18001208243

NIT No: WBARD/WBLDC/NIT-726e/2024-25

Date of Issue: 18/07/2024

53. DEFECT LIABILITY PERIOD:

Full Security Deposit should be refunded to the agency after one month on expiry of Defect Liability Period of work. If any defect/ damage is detected during this period as mentioned the agency shall make the same good at his own expense to the satisfaction of the Engineer-In-Charge or in default the Engineer-In-Charge may cause the same to be made good by other agency and deduct the cost (of which the certificate of the Engineer-In-Charge shall be final) from his security deposit or any sums that may be then, or at any time thereafter become due to the agency.

Defect Liability Period (DLP) shall be commenced from the actual completion of work and considered as follows depending upon the different nature of works:-

- A) (i) **Defect liability period shall be 03 (three) months for the work** of patch repair or patch maintenance in nature or combination thereof from the date of actual completion of work.
(ii) Full security deposit shall be refunded to the agency after one month on expiry of DLP (three months from the actual date of completion of the work).
- B) (i) **Defect liability period shall be 01 (one) year from the actual** date of completion for the work of thorough bituminous surfacing work with bituminous thickness less than 40mm, and Repair and Rehabilitation of any road/ bridge/ culvert/ building/ sanitary plumbing work.
(ii) Full security deposited shall be refunded to the agency after one month on expiry of DLP (one year from the date of actual completion of work).
- C) (i) Extension of building/ bridge/ Calvert, construction of new flexible pavement up to bituminous level, widening and strengthening of flexible pavement, improvement of riding quantity/ strengthening of flexible pavement which **has been designed for a period of three years or more**. Providing only mastic asphalt layer over existing bituminous surface without providing bituminous profile corrective course/ bituminous base course, the DLP of the work shall be three years from the actual date of completion of work.
(ii) a) No Security Deposit shall be refunded to the agency for 1st year from the actual date of completion of work.
(ii) b) 30 % of the Security Deposit shall be refunded to the agency after one month on expiry of DLP (**two years from the actual date of completion of work**).
(ii) c) The balance 70 % of the Security Deposit shall be refunded to the agency after one month on expiry of DLP (three years from the actual date of completion of work).
- D) (i) Construction of new building /bridge/culvert including construction of approach roads for bridge/ culvert, construction of rigid pavement, re-construction of rigid pavement, construction of new flexible pavement covered by mastic asphalt which has been designed for a period of 05 (five) years or more widening & strengthening of flexible pavement covered by mastic asphalt, improvement of riding quality/ strengthening of flexible pavement covered by mastic work which **has been designed for a period of 05 (five) years or more. The DLP of the work shall be 05 (five) years from** the actual date of completion of work.
(iii) a) No Security Deposit shall be refunded to the agency for 1st three years from the actual date of completion of work.



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(ii) b) 30 % of the Security Deposit shall be refunded to the agency after one month on expiry of DLP (four years from the actual date of completion of work).

(ii) c) The balance 70 % of the Security Deposit shall be refunded to the agency after one month on expiry of DLP (five years from the actual date of completion of work).

54. There shall be no provision of Arbitration. Hence clause 25 of the West Bengal Form No. 2911(ii) shall not be allowed vide memo no. 558/SPW dated 13.12.2011 of P.W.D Establishment Branch.
55. Cement Procure & Supply by the Contractor shall be of ordinary Portland cement 53 grade, 43 grade, conforming (IS 8112) or PPC/PSC the grade to be decided by the Engineer-In-Charge or as per instruction on specified in the approved drawing of this department or as stipulated in the departmental schedule of rates.
56. During opening of bid Managing Director may call open bid/ sealed bid after opening of the said bid to obtain the suitable rate further, if it is required. No objection in this respect will be entertained if raised by any bidder present or absent during opening of tender.
57. In case of any unscheduled holiday on the aforesaid dates [Sl. (v)], the next working day will be treated as schedule/ prescribed date for the same purpose.
58. No Adjustment of Price or Price Escalation of any kind will be allowed. Notification No. 23-CRC/2M-61/2008 dated 13.03.2009 & Notification No. 38-CRC/2M-61/2008 dated 20.04.2009 shall not be applicable for the job included in this NIT.
59. If more than one Bidder quoted same rate and which are found lowest at the time of opening, such similar multiple rates will not be entertained / accepted. Lowest offer will be ascertained by sealed bid amongst the lowest bidder.
60. The Earnest Money may be forfeited if ;-
 - a) If the Bidder withdraws the Bid during the period of Bid validity.
 - b) In case of successful Bidder, if the Bidder fails to execute formal agreement within the stipulated time period.
 - c) During scrutiny, if it is come to the notice of tender inviting authority that the credential or any other document which were uploaded & digitally signed by the Bidder are incorrect / manufactured / fabricated.
 - d) Earnest Money converted to Security Deposit will be forfeited as per rules stated above.
62. All intending bidders should be appointed one Civil / Electrical Engineer during execution of work as the case may be.


(Dr. Gouri Shankar Koner)
Managing Director
W.B.L.D.C. Ltd



WEST BENGAL LIVESTOCK DEVELOPMENT CORPORATION LIMITED

(A Govt. Of West Bengal Undertaking)

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NIT No: WBARD/WBLDC/NIT-726e/2024-25

Date of Issue: 18/07/2024

Scope of Work (Annexure-A) (MECHANICAL - CIVIL -ELECTRICAL)

**Job Name : Modernization of Bishnupur Dairy of Kangsabati Milk Union,
Bishnupur, Bankura-722122, West Bengal.**

I. Plant & Machineries and allied Electrical (Mechanical & Electrical Details)

TANKER RECEPTION

1.01) FDA Approved Tanker Reception Hose Pipe

Size : As per BOQ

Qty : As per BOQ

Type : Crush proof reinforced plastic spiral construction flexible hose with
Vulcanized SS end connection & fittings, resistant to CIP cleaning liquids up
To 90 deg.C

Length : As per BOQ

Material : Food grade, US FDA approved

1.02) Tanker Unloading Flow Plate

The flow plate shall be constructed on SS square box pipe and suitable thickness SS plate.

The flow shall have following features:

1. Incoming port for all the inlet line
2. Outgoing port for all the milk/product outlet line
3. Manual Butterfly valves at all inlet and outlet port
4. Soft water line for flushing
5. CIP forward line
6. CIP return line
7. Spare ports for future expansion
8. Solid and flexible pieces with male union for connections
9. SS Tray for collection of products while making/breaking the contact.

1.03) Inline Filter (Pipe in Pipe)

Duty : For online filtering of milk before chilling

Capacity : As per BOQ

Quantity : As per BOQ
Material : Stainless steel confirming to AISI 304.
Strainer : Pipe in pipe type
Gasket : Food grade rubber

1.04) Milk Transfer Pump

Capacity : As per BOQ
Qty : As per BOQ
Type : Centrifugal, mono block
Fittings : Quick opening sanitary fittings
Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal
Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure.

1.05) Raw Milk Chiller

Capacity : As per BOQ
Qty : As per BOQ
Type : Plate heat exchanger with SS 316 type plates
MOC of plate : SS 316
Duty : This PHE shall be used to chilled raw milk from 10 Deg. C to 4 Deg. C
With chilled water
Raw milk content : as mentioned in the design basis
Milk Feed temp. : 10 Deg. C (Max)

Milk Discharge Temp.: 4 Deg. C (Max Chilled water feed temperature: 2 Deg.
Maximum permissible chilled water flow : 1:3 ratio of milk

CAN RECEPATION

1.06) Can Scrubber

Capacity : As per BOQ
Qty : As per BOQ
Duty : To clean the empty can and Lid after unloading milk it shall be motorized
Detergent cleaner with special brushing arrangement. Bidder to submit
The GA drawing with the offer showing dimensions.

1.07) Can Drip Saver

Capacity : As per BOQ
Qty : As per BOQ
Duty : The empty can put on this Stand and remove excess milk from the can
: The GA drawing with the offer showing dimensions.

1.08) Roller Converst (SS)

Capacity : As per BOQ
Qty : As per BOQ
Duty : The Roller Converst use in milk can unloading from truck to weigh scale
: The GA drawing with the offer showing dimensions.

1.09) Can Tipping Bar

Capacity : As per BOQ
Qty : As per BOQ

This will be used as can support in manual tipping of milk cans into the weigh bowl. It shall be a horizontal wooden (teak) bar supported on two legs. The legs shall be grouted down to the floor

1.10) Weighing Scale with Bowl

SS Weigh Bowl shall be suspended from the Weigher and its weight is sensed through Electronic resistive/capacitive strain gauge load cells.

MOC : SS 304
Capacity : As per BOQ
Qty : As per BOQ

Electronic type weigh scale shall be used for weighing Milk.
The system shall consist of;

Measurement: Through Resistive/capacitive type Load cell.

Display: Weight of milk will be indicated in bright seven segment LEDs'/LCD of 25 mm height. There shall be no visual errors. It will be possible to mount the display separately at a convenient point. System would be powered with 230 V, 1 phase, 50 HZ AC supply. It will have automatic zeroing and span drift correction. It will be able to work in ambient temperature of 50 Deg. C. and 90% relative humidity. System shall have facility for interfacing with a PC for entry/recording of data. Load cells shall conform to IP 65 and shall withstand overload of 300% to take care of the impact loading when milk is poured into the weigh bowl.

A dedicated tailor-made MIS system for reception data entry and collection
Shall be supplied. Size

1.11) SS dump Tank (Single Compartment)

Capacity : As per BOQ
Qty : As per BOQ
Function : For collecting and storing the milk
Type : Open rectangular trough with cover
Material : 2 mm SS 304
Accessories : Bottom outlet, ball feet & suitable cover with opening for milk receiving
Capacity : As per BOQ

1.12) Inline Filter (Pipe in Pipe)

Duty : For online filtering of milk before chilling
Capacity : As per BOQ
Quantity : As per BOQ
Material : Stainless steel confirming to AISI 304.
Strainer : Pipe in pipe type
Gasket : Food grade rubber

1.13) Milk Transfer Pump

Capacity : As per BOQ
Qty : As per BOQ
Type : Centrifugal, mono block
Fittings : Quick opening sanitary fittings
Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal
Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure.

1.14) Raw Milk PHE Chiller for Can Reception

Capacity : As per BOQ
Qty : As per BOQ
Type : Plate heat exchanger with SS 316 type plates
MOC of plate : SS 316
Duty : This PHE shall be used to chilled raw milk from 35 Deg. C to 4 Deg. C
With chilled water
Raw milk content : as mentioned in the design basis
Milk Feed temp. : 35 Deg. C (Max)

Discharge Temp. : 4 Deg. C (Max Chilled water feed temperature: 2 Deg. C)
Maximum permissible chilled water flow : 1:3 ratio of milk
Maximum pressure drops on milk side : 0.5 Kg/cm²

Milk

RAW MILK STORAGE

1.15) Raw Milk Storage Tank (Silo)

Capacity : As per BOQ
Qty : As per BOQ
Type : Outdoor type
Material : a) Inner shell - AISI 304, 2.5 mm (bottom), 3 mm (middle), 3mm (top)sheet

- & conical top 3 mm
b) Outer cladding - AISI 304: 2 mm thick in welded construction or thickness as per OEM design with guarantee.

Finish : 2B Finish sheet with 180 grit finish for joints
Agitation : Top mounted mechanical agitator to ensure uniform fat Distribution without any adverse effect on the contents in 10-minute time. Slow speed agitator is only permitted

Ports and fittings:

1. Inlet/outlet
2. Breather – as per OEM Design
3. CIP spray ball – rotating type (openable type)
4. Nozzle for temperature sensor,
5. Man way
6. Light cum sight glass with LED lamp & 1.5 V battery
7. Leaky and rainwater down pipe up to foundation level and to be installed within the Insulation
8. Toe guard (fully welded) to ensure no water mark in case of any CIP Leakage on silo Outer surface
9. SS railing of 2 mtr height - as per OEM Design

Insulation: PUF Insulation of suitable thickness to ensure temp. rise does not exceeded 1 deg. C in 24 hours' time in all seasons. (as per OEM Design)

The brief detail for insulation is as follows;

First layer: 15 mm thick PUF of 35-40 Kg/m³ density

2nd Layer: 50 mm EPS of 16-18 Kg/m³ Density to be applied longitudinally with bitumen

3rd Layer: 50 mm EPS of 16-18 Kg/m³ Density to be applied radially with bitumen

4th Layer: 1mm thick aluminium Foil Bottom will be PUF injected of density 45-50 Kg/M³

Supporting Structure: As per OEM Design

Note:

1. Supplier shall submit GA drawing for approval to the purchaser for tank prior to fabrication work in the event of placement of order
2. The silo support structure shall be welded in such a way that no metal-to-metal contact is established between inner shell and out shell to avoid sweating during all the weather condition
3. Stage inspection to be offered for MOC, fabrication, welding, insulation, and final inspection before dispatch
4. Agitator seal leakage drainpipe with 38 mm blind union to be provided
5. Manual weldable butterfly valve shall be provided at the common inlet/outlet of the silo for safety
6. Silo manhole shall align smoothly and inside shall match with the silo wall to have proper cleaning of the manhole surface

1.16) Raw Milk Silo interconnecting platform with railing & approach ladder in SS 304 constructions

Capacity : As per BOQ
Qty : As per BOQ

This shall be SS 304 chequered plate platform interconnecting all silos. Connecting platform and approach ladder in SS304 construction to be considered. Platform for the silos shifted from existing dairy to be considered

Supplier to submit GA drawing for approval before commencing fabrication work in the event of placement of order

1.17) Milk Transfer Pump for Silo to Past. 5 KLPH

Capacity : As per BOQ
Qty : As per BOQ
Type : Centrifugal, mono block
Fittings : Quick opening sanitary fittings
Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal
Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure.

1.18) Inter Silo Cum Dispatch Pump

Capacity : As per BOQ
Qty : As per BOQ
Type : Centrifugal, mono block
Fittings : Quick opening sanitary fittings
Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal
Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure.

1.19) CIP Return Pump For Raw Milk Silo

Qty : As per BOQ
Type : Centrifugal, self-priming
Fittings : Quick opening sanitary fittings
Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal

Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure.

1.20) Flow Plate for Milk & CIP (Near Milk Silo)

The flow plate shall be constructed on SS square box pipe and suitable thickness SS plate. The flow shall have following features:

1. Incoming port for all the inlet line
2. Outgoing port for all the milk/product outlet line
3. Manual Butterfly valves at all inlet and outlet port
4. Soft water line for flushing
5. CIP forward line
6. CIP return line with pumping as per logic
7. Spare ports for future expansion
8. Solid and flexible pieces with male union for connections
9. SS Tray for collection of products while making/breaking the contact

1.21) SS Pipe & Fitting for Raw Milk Reception Section

Qty : 1 Lot
Sizes : As required
Type : TIG welded; annealed and de-scaled tubes shall be manufactured as per The standard ASTM-A270.
Material : AISI 304 / AISI 316 as per requirement
Finish : Outer surface of the tubes shall be with dairy finish and inner surface Should be pickled as per dairy standard
Thickness : The average wall thickness of tubes should be 1.6 mm up to 76.2 mm OD And 2.0 mm for diameters above 76.2 mm OD.

SS 304 Fittings

Type : SMS or quick opening tri-clover clamp type.
Thickness : Thickness of fitting made from tube will not be less than 1.6 mm up to 76.2 mm dia. And will not be less than 2.0 mm for above 76.2 mm dia.
Unions : Will be complete with liner, male nut, and gasket. Liner made of Male parts will be suitable for expansion joints.
Pipe clamps : Will be quick opening type

Supports required for pipes:

Size : Square sections as required
Type : Supported from walls, ceilings, and floors
Material : AISI 304
Qty : 1 Lot

b) Non-Return Valve: The non-return valve shall be of sanitary design and all liquid contacting parts shall conform to AISI 304. The valve sealing gasket shall be EPDM / Nitrile rubber material suitable for hot water sterilization temperature of 100 Deg. Celsius and hot acid and lye solution of 2% concentration at 85 Deg. Celsius. The non-return valve shall be with plain ends shall be suitable for direct welding on the pipes.

c) Unions: All the parts unless otherwise specified shall be made out of investment casting using AISI 304 material. The union shall be complete with liner, male part, nut and sealing ring (neoprene food grade rubber gasket). The liner and male parts should be suitable for expansion joints. All the inside as well as outside surface of the union shall be with dairy finish.

d) Bend, Tee, Elbow: These fittings shall be made out of AISI 304 unless otherwise specified, process tube, TIG welded, annealed, de-scaled having outer surface mirror polished and inside pickled, manufactured as per ASTM A270. The thickness of the fittings made from the tube section should not be less than 1.6 mm up to 76 mm dia. and should not be less than 2.0 mm for above 76 mm dia. The wall thickness at any point shall not vary more than 12.5% over and under from the average wall thickness specified.

Bends and elbows shall be free from wrinkles. Tee shall have uniform flaring on the branch connection. The ovality on the open ends shall be within the permissible limit specified in the ASTM A270.

Manual Utility Valves

Capacity : Suitable
Qty : 1 Lot

1.22) Control Panel for Raw Milk Reception Section

Capacity : As per BOQ
Qty : As per BOQ

RECONSTITUTION SECTION

1.23) Reconstitution Milk Preparation Cum Storage Tank

Capacity : As per BOQ
Qty : As per BOQ
Type : Vertical, Insulated
MOC : SS 304 (inner shell & outer cladding) thickness -2.5 & 3 mm for inner Shell & 2 mm cladding
Insulation : PUF insulation of suitable thickness to ensure temp rise of 1 Deg. C in 24 hours
Accessories : Sight glass, light glass, agitator (with SS shroud), SS railing, SS ladder, SS platform (as required), sampling cock, lifting lug, nozzles for instruments etc.

1.24) Powder Blending System with Table mounted hopper and shear & booster Pump with accessories

Capacity : As per BOQ
Qty : As per BOQ

The System shall be skid mounted with following major components.

1. Liquid Ring Pump
2. Shear Blender (only this will be allowed)
3. Powder Induction Funnel
4. Powder Control Valve
5. Liquid Control Valve
6. Internal Piping & Fitting
7. S. S. Skid for assembling all the above Parts

Technical Details of individual components are as follows.

Liquid Ring Pump.

Duty : It will draw the base milk out of the batch tank and will transfer it through a short pipe to the powder & will be of Sanitary Type.
Model No : Supplier to specify
KW/HP : Supplier to specify
Type : Sanitary, Monoblock, Self-Priming Centrifugal
MOC : SS 304
Accessories : Suitable rating motor with SS shroud & Base frame

Shear Pump

Duty : To blend powder coming from funnel and mix with liquid
Type : Sanitary with specially designed impeller to create high turbulence mixing zone at the suction
MOC : SS 304
Model : Supplier to specify
KW/HP : Supplier to specify
Accessories : SS sound absorbing shroud, Motor, Base frame etc.

Powder Induction Funnel.

Duty : To Dump Powder in the shear pump
Capacity : 50 Kg
MOC : SS 304
Thickness : 2.5 mm

Powder Control Valve

Duty : To regulate powder flow in the suction of Shear Pump
Type : Sanitary Manual Valve
MOC : SS 304
Size : 63 mm

Liquid Control Valve

Duty : To regulate Liquid flow in the suction of water ring
Pump

Type : Sanitary Manual Valve

MOC : SS 304

Size : 51 mm

Internal Piping & Fitting

SMS standard fitting to connect water ring pump, shear pump, funnel etc.

All SS 304 with suitable size.

S. S. Skid for assembling all the above Parts

All above components shall be mounted on SS 304 skid of suitable size.

1.25) Milk Reconstitution PHE Chiller (35-4 deg.C)

Capacity : As per BOQ

Qty : As per BOQ

Type : Plate heat exchanger with SS 316 type plates

MOC of plate : SS 316

Duty : This PHE shall be used to chilled raw milk from 35 Deg. C to 4 Deg. C
With chilled water

Raw milk content : as mentioned in the design basis

Milk Feed temp. : 35 Deg. C (Max)

Milk Discharge Temp. : 4 Deg. C (Max Chilled water feed temperature: 2 Deg. C)

Maximum permissible chilled water flow : 1:3 ratio of milk

Maximum pressure drops on milk side : 0.5 Kg/cm²

1.26) Reconstitution Milk Transfer Pump

Capacity : As per BOQ

Qty : As per BOQ

Type : Centrifugal, mono block

Fittings : Quick opening sanitary fittings

Material : AISI 316

Mounting : Free standing with adjustable SS ball feet

Shaft sealing : Mechanical shaft seal

Gasket : Nitrile rubber

Shroud : AISI 304 with acoustic lining

Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with
TEFC/IP 55 Enclosure.

1.27) CIP Return Pump for Reconstitution Tank

Capacity : As per BOQ

Qty : As per BOQ

Type : Centrifugal, self-priming

Fittings : Quick opening sanitary fittings

Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal
Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure.

1.28) Flow Plate for Milk & CIP (Near Reconstitution Tank)

The flow plate shall be constructed on SS square box pipe and suitable thickness SS plate. The flow shall have following features:

1. Incoming port for all the inlet line
2. Outgoing port for all the milk/product outlet line
3. Manual Butterfly valves at all inlet and outlet port
4. Soft water line for flushing
5. CIP forward line
6. CIP return line with pumping as per logic
7. Spare ports for future expansion
8. Solid and flexible pieces with male union for connections
9. SS Tray for collection of products while making/breaking the contact

1.29) SS Pipe & Fitting for Reconstitution Section

Qty : 1 Lot
Sizes : As required
Type : TIG welded; annealed and de-scaled tubes shall be manufactured as per The standard ASTM-A270.
Material : AISI 304 / AISI 316 as per requirement
Finish : Outer surface of the tubes shall be with dairy finish and inner surface Should be pickled as per dairy standard
Thickness : The average wall thickness of tubes should be 1.6 mm up to 76.2 mm OD And 2.0 mm for diameters above 76.2 mm OD.

SS 304 Fittings

Type : SMS or quick opening tri-clover clamp type.
Thickness : Thickness of fitting made from tube will not be less than 1.6 mm up to 76.2 mm dia. And will not be less than 2.0 mm for above 76.2 mm dia.
Unions : Will be complete with liner, male nut, and gasket. Liner made of Male parts will be suitable for expansion joints.
Pipe clamps : Will be quick opening type

Supports required for pipes:

Size : Square sections as required
 Type : Supported from walls, ceilings, and floors
 Material : AISI 304
 Qty : 1 Lot

b) Non-Return Valve: The non-return valve shall be of sanitary design and all liquid contacting parts shall confirm to AISI 304. The valve sealing gasket shall be EPDM / Nitrile rubber material suitable for hot water sterilization temperature of 100 Deg. Celsius and hot acid and lye solution of 2% concentration at 85 Deg. Celsius. The non-return valve shall be with plain ends shall be suitable for direct welding on the pipes.

c) Unions: All the parts unless otherwise specified shall be made out of investment casting using AISI 304 material The union shall be complete with liner, male part, nut and sealing ring (neoprene food grade rubber gasket). The liner and male parts should be suitable for expansion joints. All the inside as well as outside surface of the union shall be with dairy finish.

d) Bend, Tee, Elbow: These fittings shall be made out of AISI 304 unless otherwise specified, process tube, TIG welded, annealed, de-scaled having outer surface mirror polished and inside pickled, manufactured as per ASTM A270. The thickness of the fittings made from the tube section should not be less than 1.6 mm up to 76 mm dia. and should not be less than 2.0 mm for above 76 mm dia. The wall thickness at any point shall not vary more than 12.5% over and under from the average wall thickness specified.

Bends and elbows shall be free from wrinkles. Tee shall have uniform flaring on the branch connection. The ovality on the open ends shall be within the permissible limit specified in the ASTM A270.

Manual Utility Valves

Capacity : Suitable
 Qty : 1 Lot

1.30) Control Panel for Milk Reconstitution Section

Capacity : As per BOQ
 Qty : As per BOQ

MILK PROCESSING SECTION**1.31) Milk Pasteurizer with all standard accessories. Semi-automatic**

Milk pasteurizer, complete module shall be required for pasteurization of raw chilled milk up to 85 deg. C. max.

The brief description of milk pasteurizer shall be as below:

Type : Plate Heat Exchanger
 Capacity : As per BOQ

Qty : As per BOQ

Material : SS 316, 0.5 mm thick plates with clip ON gaskets. The gaskets for Hot Water section shall be of EPDM and of other sections in pasteurizer shall Be NBR clip on type.

Frame : Free standing SS-304 clad carbon steel frame on SS – 304 ball feet

Finish : 150 grits

Milk in/out temp. : Inlet 4 to 5 Deg. C, final outlet 4 Deg. C

Services : Chilled water at + 2 0 C (min) Steam at 3.5 Kg/cm² pressure

Milk to CW ratio : 1:3 (max)

Hot water Ratio : 1:2 (max)

Regeneration Efficiency: 93%

Temperature program: 4 – 80 – 4 Deg. C with take-off temp.

SS Feed pump

Capacity : As per the capacity of the pasteurizer and CIP requirement

Type : Centrifugal

Flow Controller separator and homogenizer as per OEM

The milk pasteurizer will have set of the following items:

Balance tank:

1. CIP spray ball
2. Half Open able cover
3. Nozzles for incoming milk
4. Nozzle for outgoing milk
5. Nozzle for soft water inlet
6. Ball feet with SS round plate at bottom

Capacity : Suitable

Material : AISI 304.

Finish : 150 grits.

Note : The Supplier shall ensure that in case of flow diversion or power failure, the milk does not overflow from the balance tank.

Holding Tube

Type : Skid top mounted design

Holding time : 20 Sec.

Material : SS – 304

1.32) Tri-purpose Cream separator with all standard accessories

Capacity : As per BOQ
Qty : As per BOQ
Type : Soft Stream system/bottom feed airtight separator with manual-cleaning
Type disc bowl
Material : AISI 304
Drive : Integrally mounted, 3 phase 415 V, 50 Hz. electrical motor direct driven (motor mounted directly on vertical shaft)
Shrouding : Complete body and motor shall be shrouded in SS304.

1.33) Manual Hoist with I beam for separator bowl lifting

Capacity : As per BOQ
Qty : As per BOQ
Note: The I beam section of suitable size to be considered in the scope of supply

1.34) SS Pipe & Fitting for Milk Processing Section

Qty : 1 Lot
Sizes : As required
Type : TIG welded; annealed and de-scaled tubes shall be manufactured as per The standard ASTM-A270.
Material : AISI 304 / AISI 316 as per requirement
Finish : Outer surface of the tubes shall be with dairy finish and inner surface Should be pickled as per dairy standard
Thickness : The average wall thickness of tubes should be 1.6 mm up to 76.2 mm OD And 2.0 mm for diameters above 76.2 mm OD.

SS 304 Fittings

Type : SMS or quick opening tri-clover clamp type.
Thickness : Thickness of fitting made from tube will not be less than 1.6 mm up to 76.2 mm dia. And will not be less than 2.0 mm for above 76.2 mm dia.
Unions : Will be complete with liner, male nut, and gasket. Liner made of Male parts will be suitable for expansion joints.
Pipe clamps : Will be quick opening type

Supports required for pipes:

Size : Square sections as required
Type : Supported from walls, ceilings, and floors
Material : AISI 304
Qty : 1 Lot

b) Non-Return Valve: The non-return valve shall be of sanitary design and all liquid contacting parts shall conform to AISI 304. The valve sealing gasket shall be EPDM / Nitrile rubber material suitable for hot water sterilization temperature of 100 Deg. Celsius and hot acid and lye solution of 2% concentration at 85 Deg. Celsius. The non-return valve shall be with plain ends shall be suitable for direct welding on the pipes.

c) Unions: All the parts unless otherwise specified shall be made out of investment casting using AISI 304 material. The union shall be complete with liner, male part, nut and sealing ring (neoprene food grade rubber gasket). The liner and male parts should be suitable for expansion joints. All the inside as well as outside surface of the union shall be with dairy finish.

d) Bend, Tee, Elbow: These fittings shall be made out of AISI 304 unless otherwise specified, process tube, TIG welded, annealed, de-scaled having outer surface mirror polished and inside pickled, manufactured as per ASTM A270. The thickness of the fittings made from the tube section should not be less than 1.6 mm up to 76 mm dia. and should not be less than 2.0 mm for above 76 mm dia. The wall thickness at any point shall not vary more than 12.5% over and under from the average wall thickness specified.

Bends and elbows shall be free from wrinkles. Tee shall have uniform flaring on the branch connection. The ovality on the open ends shall be within the permissible limit specified in the ASTM A270.

Manual Utility Valves

Capacity : Suitable

Qty : 1 Lot

1.35) Control Panel for Milk Processing Section

Capacity : As per BOQ

Qty : As per BOQ

PASTEURIZED MILK STORAGE & PACKING SECTION

1.36) PHE for Re-Chilling

Capacity : As per BOQ

Qty : As per BOQ

Type : Plate heat exchanger with SS 316 type plates

MOC of plate : SS 316

Duty : This PHE shall be used to chilled raw milk from 35 Deg. C to 4 Deg. C
With chilled water

Raw milk content : as mentioned in the design basis

Milk Feed temp. : 35 Deg. C (Max)

Milk Discharge Temp.: 4 Deg. C (Max Chilled water feed temperature: 2 Deg. C)

Maximum permissible chilled water flow : 1:3 ratio of milk

Maximum pressure drops on milk side : 0.5 Kg/cm²

1.37) Inline Filter (Pipe In Pipe)

Duty : For online filtering of milk before chilling

Capacity : As per BOQ

Quantity : As per BOQ

Material : Stainless steel confirming to AISI 304.
Strainer : Pipe in pipe type
Gasket : Food grade rubber

1.38) Milk Storage Tank (HMST-Single Compartment)

Qty : As per BOQ
Capacity : As per BOQ
Type : Horizontal Milk Storage tank

Duty : To store past. Milk coming from Pasteurizer and transfer it to pouch packing machine

MOC : SS 304, Thickness 2.5 mm shell& 3 mm Cone, cladding 2 mm or as per OEM with guarantee

Insulation : Suitable thickness PUF insulation to ensure 1 Deg. C temp rise in 24 hours

Agitator : Top mounted

Accessories : Light glass, sight glass, Agitator SS shroud, lifting lug, SS platform & railing
As per requirement.

Ports : Milk in and Milk out ports to be decided by the Supplier either single or Double (for milk filling and milk emptying)

1.39) Milk Storage Tank (HMST– Double Compartment)

Qty : As per BOQ
Capacity : As per BOQ
Type : Horizontal Milk Storage tank with double compartment

Duty : To store past. Milk coming from Pasteurizer and transfer it to pouch packing machine

MOC : SS 304, Thickness 2.5 mm shell& 3 mm Cone, cladding 2 mm or as per OEM with guarantee

Insulation : Suitable thickness PUF insulation to ensure 1 Deg. C temp rise in 24 hours

Agitator : Top mounted

Accessories : Light glass, sight glass, Agitator SS shroud, lifting lug, SS platform & railing
As per requirement.

Ports : Milk in and Milk out ports to be decided by the Supplier either single or Double (for milk filling and milk emptying)

1.40) Inline Filter (Pipe in Pipe)

Duty : For online filtering of milk before chilling

Capacity : As per BOQ
Quantity : As per BOQ
Material : Stainless steel confirming to AISI 304.
Strainer : Pipe in pipe type
Gasket : Food grade rubber

1.41) Flow Plate of Milk & CIP for (Near HMST Tank)

The flow plate shall be constructed on SS square box pipe and suitable thickness SS plate.

The flow shall have following features:

1. Incoming port for all the inlet line
2. Outgoing port for all the milk/product outlet line
3. Manual Butterfly valves at all inlet and outlet port
4. Soft water line for flushing
5. CIP forward line
6. CIP return line with pumping as per logic
7. Spare ports for future expansion
8. Solid and flexible pieces with male union for connections
9. SS Tray for collection of products while making/breaking the contact

1.42) Milk Transfer Pump

Capacity : As per BOQ
Qty : As per BOQ
Type : Centrifugal, self-priming
Fittings : Quick opening sanitary fittings
Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal
Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure.

1.43) CIP Return Pump for HMST Tank

Capacity : As per BOQ
Qty : As per BOQ
Type : Centrifugal, self-priming
Fittings : Quick opening sanitary fittings
Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal
Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure. Capacity : As per BOQ

1.44) Milk FFS Pouch Packing Machine

Capacity : As per BOQ S

Qty : As per BOQ

PRODUCT Milk or any other free flowing liquid

MACHINE CONTROL PLC controlled with servo mechanism & Touch screen Operating panel

FEEDING SYSTEM Gravity Filler DOSAGE Up to 1000 ml.

ACCURACY WEIGHT VARIATION: 0.2%. Under ideal Working condition.

BAG LENGTH VARIATION: 1 mm.

SPEED (min) 5000 pouches / hour / head. (500 G)

PACKING MATERIAL Virgin Film: Any Impulse sealing material like co-ex LDPE

1) Film Width – 321 mm 2mm

2) Thickness: 42-47 micron

3) Maximum weight of film rolls 75 Kg (in built without external attachment)

4) Film Roll dia. – 300 mm. Core dia. 76 mm

TYPE OF SEAL Vertical –Overlap

Horizontal – Seal & Cut Impulse Type.

Leakage rate: < 2000 Part per Million.

SUPPLIES TO THE MACHINE

Electrical

1. Power Supply: Supplier to specify

2. Connected Load: Supplier to specify

3. Power Consumption (in kWh): Supplier to specify

4. Electrical connection cable size: Supplier to specify

Cooling Water: Pressure- Supplier to Specify

Flow Rate- Supplier to specify

Temperature: Supplier to Specify

Utility for Actuation of Injection System:

Electromagnetic coil actuation system the movement of the same is regulated by

Electromechanical device with MMI display.

DESCRIPTION OF THE MACHINE BODY

The components, which form, fill seal the pouches/sachets are enclosed in a stainless-steel cabinet. All major items are of stainless steel or treated with Aluminium protected by a weatherproof paint. All parts in contact with the product are of AISI-304 stainless steel with smooth finish.

SPOOL BEARER ASSEMBLY

The Roll of heat sealable films are mounted in a compartment at the rear bottom of the machine. They are supported on the idler rollers in sliding drawers with bottom opening machine cabinet doors, which enables to charge the rolls quickly. The Film layers pass in each head via different idler rollers, film loosening takes place through positive film

Unwinding AC drive mechanism and moves in front of the ultra violet sterilization tube before it is engaged in the forming device. The specially designed former converts this layer in to a tube.

VERTICAL SEAL

The film is overlapped and sealed into a tube on each head by impulse heated elements known as vertical electrodes. The sealing jaws are water-cooled and are mechanically operated by link mechanism through the drive shaft. The formed film tube surrounds the injection or filling tube through which the products to be filled flows in the film tube.

INJECTION SYSTEM The filling system is as follows:

- A liquid injection electromagnetic coil is mounted on top of the injection tube
- A gate at the lower end of the injection tube opens when injection switch is turned ON.

This allows the liquid to be packed in the surrounding formed film tube. The gate opens by electromagnetic coil actuation system of the piston in the injection cylinder assembly when injection switch is made ON.

FILM FEED Rubber nip rollers below each vertical sealer control downward movement of the film tube. Vertical overlapped sealed film tube is pulled down by nip rollers coupled with clutch and brake unit through drive shaft. The length of the film tube pulled down is controlled by PLC.

HORIZONTAL SEALING AND CUTTING

The sealed tube then arrives at the bag making point. Here when the horizontal presses close on the film tube, the horizontal assembly mounted on one of the presses seals and cuts the horizontal portion of the film tube. The horizontal jaw simultaneously seals the upper horizontal sealed band of the lower filled pouch and the lower horizontal sealed band of the upper film tube. The other horizontal press on which there is only silicon back up rubber and a Teflon magazine is called a counter electrode.

COOLING both horizontal and vertical electrode holders should be water-cooled

CODING MECHANISM

- a. Heat embossing coding device with 9 characters
- b. TTO printer for each head

PHOTOCELL REGISTRATION SYSTEM it should be working properly while photo mark film is used.

Sensor makes : P& F, OMRON, and Banner

SPARES Set of critical spares related to two years of operation.

MANUALS

- A) Manufacturer/Supplier's Guarantee certificate.
- B) Four copies of certificate of Insurance.
- C) Four copies of the list of all spares related to machine with its part number.
- D) Critical spare list along with model number, part number and make.
- E) Four Copies of user Manual.

Salient Feature:

- Automation equipped with PLC & HMI
- Simple maintenance friendly construction
- Servo Motor Controlled Bag Pulling Mechanism
- Independent head operation allowing flexibility
- Hygienic machine design. MOC of product contact parts from stainless steel SS 304
- Servo driven impulse sealing mechanism
- Motorized mechanical filling system for consistent fill accuracy through programmer and ease of change over
- UV film sterilization system for packaging material in back as well as front side with door interlocking
- Manual web tracking system
- Jumbo reel trolley with hygienic enclosure
- End of film roll facility with interlock of machine to parking mode
- Motorized film reel unwinding control mechanism
- Heating element failure linked alarm generation
- Electrical system of respective head/ track housed in separator cabinet
- Maintenance friendly horizontal & vertical seal mechanism
- Lubrication free design of the machine
- Automatic homing of Horizontal jaw position at power on
- Independent balance tanks offering flexibility to handle different products simultaneously
- Vertical and horizontal jaw sealing temperature to be optimized through programmed PLC

Features required in high-speed Machine

- There shall be equal distribution of electrical load on all 3 phases to avoid any interruption during DG set operation
- Isolation switch is required for cut off of machine from mains
- LED light (8/10W) to be provided in place of PL tube light
- Machine body should be SS 304 construction. As well as all contact parts are of SS 304.
- Machine Operations should be electronically controlled with PLC & touch screen OP
- Digital Setting Control for all Setting Timings
- Individual Head operation
- Positive unwinding for each Head

- Rooftop with SS.
- Provision to run different bag size.
- Separate Control for Seal voltage & timer for handling different film.
- Provision of Jaw close switch.
- Adjustable cooling time.
- Electrical control circuit shall be with 24 V DC.
- Bank of UV tube for Sterilization of film with interlock for stoppage
- SS Nozzle for CIP system
- Toughened Door glass
- SS Legs with height adjustment.
- No Milk No fill with indication and alarm.
- Front and back door safety interlocks.
- Solenoid valve control for jaw cooling water control with start/stop of machine.
- SS pipeline with suitable diameter for Jaw cooling. No water line in backside of machine.
- End of the roll detection system to be supported on insulated bush to prevent earth fault in PLC and other electronic parts
- Friction free forming tube shoulders to be provided to ensure minimum wear and tear of the forming tube
- Locking arrangement to be provided for maximum height of the injection rod
- Film roll stand to be provided with extra length to easily slide the new roll inside the machine
- Chequered plate stands to be provided in the space available between two films roll for maintenance purpose
- During CIP, the injection rod should be in fully open position for 100% flow (i.e. 1 litter mode)
- CIP hose for each machine to be supplied
- TTO printer for each head each machine to be considered in the scope of supply

1.45) Packing Machine Table

Capacity : As per BOQ
 Qty : As per BOQ
 Duty : To Use Collect milk pouch and fill the empty carets
 : The GA drawing with the offer showing dimensions.

1.46) CIP Return Pump for Pouch Packing Machine

Capacity : As per BOQ
 Qty : As per BOQ
 Type : Centrifugal, self-priming

Fittings : Quick opening sanitary fittings
Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal
Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure.

1.47) Milk Cold Storage for Pouch Milk

Capacity : As per BOQ
Qty : As per BOQ

Insulation:

Cold insulation with 80 mm thick PPGI sheet with PUF of 40 Kg/m³ Density for wall

Cold insulation of Floor shall have vapour barrier of aluminium foil/PVC sheet. One layer of tar felt sealed duly with 80:20 bitumen as per prevailing IS code and two layers of insulation covered & sealed with tar felt.

Cold insulation of column (as per requirement)

Refrigeration : Standalone refrigeration system (Freon based)

Temp : Maintain Temp. 4 deg.C
Loading : 15000 Litre

Other Accessories:

1. Control panel with digital temp controller
2. Manual sliding door for approach (2100 x 1500 mm)
3. Hatch door for opening in cold store
4. SS railing for safety
5. SS chequered plate for flooring
6. Room Lights (LED type)

1.48) SS Pipe & Fitting For Packing Section

Qty : 1 Lot
Sizes : As required
Type : TIG welded; annealed and de-scaled tubes shall be manufactured as per The standard ASTM-A270.
Material : AISI 304 / AISI 316 as per requirement
Finish : Outer surface of the tubes shall be with dairy finish and inner surface

Should be pickled as per dairy standard

Thickness : The average wall thickness of tubes should be 1.6 mm up to 76.2 mm OD
And 2.0 mm for diameters above 76.2 mm OD.

SS 304 Fittings

Type : SMS or quick opening tri-clover clamp type.

Thickness : Thickness of fitting made from tube will not be less than 1.6 mm up to 76.2 mm dia. And will not be less than 2.0 mm for above 76.2 mm dia.

Unions : Will be complete with liner, male nut, and gasket. Liner made of Male parts will be suitable for expansion joints.

Pipe clamps : Will be quick opening type

Supports required for pipes:

Size : Square sections as required

Type : Supported from walls, ceilings, and floors

Material : AISI 304

Qty : 1 Lot

b) Non-Return Valve: The non-return valve shall be of sanitary design and all liquid contacting parts shall conform to AISI 304. The valve sealing gasket shall be EPDM / Nitrile rubber material suitable for hot water sterilization temperature of 100 Deg. Celsius and hot acid and lye solution of 2% concentration at 85 Deg. Celsius. The non-return valve shall be with plain ends shall be suitable for direct welding on the pipes.

c) Unions: All the parts unless otherwise specified shall be made out of investment casting using AISI 304 material The union shall be complete with liner, male part, nut and sealing ring (neoprene food grade rubber gasket). The liner and male parts should be suitable for expansion joints. All the inside as well as outside surface of the union shall be with dairy finish.

d) Bend, Tee, Elbow: These fittings shall be made out of AISI 304 unless otherwise specified, process tube, TIG welded, annealed, de-scaled having outer surface mirror polished and inside pickled, manufactured as per ASTM A270. The thickness of the fittings made from the tube section should not be less than 1.6 mm up to 76 mm dia. and should not be less than 2.0 mm for above 76 mm dia. The wall thickness at any point shall not vary more than 12.5% over and under from the average wall thickness specified.

Bends and elbows shall be free from wrinkles. Tee shall have uniform flaring on the branch connection. The ovality on the open ends shall be within the permissible limit specified in the ASTM A270.

Manual Utility Valves

Capacity : Suitable

Qty : 1 Lot

1.49) Control Panel For Packing Section

Capacity : As per BOQ

Qty : As per BOQ

LEAKEY POUCH

1.50) Leakey Pouch cut Open Tank

Capacity	: As per BOQ
Qty	: As per BOQ
Function	: For collecting and storing the Leakey pouch milk
Type	: Open rectangular trough with Steiner and cover
Material	: 2 mm SS 304
Accessories	: Bottom outlet, ball feet & suitable cover with opening for milk receiving

1.51) Milk Transfer Pump

Capacity	: As per BOQ
Qty	: As per BOQ
Type	: Centrifugal, mono block
Fittings	: Quick opening sanitary fittings
Material	: AISI 316
Mounting	: Free standing with adjustable SS ball feet
Shaft sealing	: Mechanical shaft seal
Gasket	: Nitrile rubber
Shroud	: AISI 304 with acoustic lining
Motor	: 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure.

1.52) PHE Chiller

Capacity	: As per BOQ
Qty	: As per BOQ
Type	: Plate heat exchanger with SS 316 type plates
MOC of plate	: SS 316
Duty	: This PHE shall be used to chilled raw milk from 35 Deg. C to 4 Deg. C With chilled water
Raw milk content	: as mentioned in the design basis
Milk Feed temp.	: 35 Deg. C (Max)
Milk Discharge Temp.:	4 Deg. C (Max Chilled water feed temperature: 2 Deg. C)
Maximum permissible chilled water flow	: 1:3 ratio of milk
Maximum pressure drops on milk side	: 0.5 Kg/cm ²

CREAM & GHEE SECTION

1.53) Cream pasteurizer with all standard accessories

Cream pasteurizer, complete module shall be required for pasteurization of raw cream up to 90 deg. C. max.

The brief description of cream pasteurizer shall be as below:

Type : Plate Heat Exchanger

Capacity : As per BOQ

Qty : As per BOQ

Material : SS 316, 0.5 mm thick plates with clip ON gaskets.

Frame : Free standing SS-304 clad carbon steel frame on SS – 304 ball feet

Finish : 150 grits

Cream in/out temp. : Inlet 45 Deg. C, final outlet 8 Deg. C

Services : Chilled water at + 2 0 C (min) Steam at 3.5 Kg/cm² pressure

Cream to CW ratio : 1:3 (max)

Cooling Tower water Ratio : 1:5 (max)

Hot water Ratio : 1:2 (max)

Regeneration Efficiency: 80%

Temperature program: 45 – 90 – 8 Deg. C with take-off temp.

SS Feed pump

Capacity : As per the capacity of the pasteurizer and CIP requirement

Type : Centrifugal

Flow Controller separator and homogenizer as per OEM

The milk pasteurizer will have set of the following items:

Balance tank:

1. CIP spray ball
2. Half Open able cover
3. Nozzles for incoming milk
4. Nozzle for outgoing milk
5. Nozzle for soft water inlet
6. Ball feet with SS round plate at bottom

Capacity : Suitable

Material : AISI 304.

Finish : 150 grits.

Note : The Supplier shall ensure that in case of flow diversion or power failure, the cream does not overflow from the balance tank.

Holding Tube

Type : Skid top mounted design

Holding time : 20 Sec.

1.54) Cream Ripping Tank

Capacity : As per BOQ

Qty : As per BOQ

Type : Insulated, clad and dimple jacketed vertical cylindrical tank.

Material : a) Inner shell - AISI 304 2.5 mm & 3.0 mm or as per OEM design
b) Intermediate - AISI 304 2.5 mm minimum or as per OEM design
c) Outer Cladding - AISI 304 2 mm or as per OEM with performance Guarantee

Finish : 2B finish

Insulation : PUF insulation of suitable thickness to ensure 1 Deg. C temp rise in 24 hours.

Accessories & Ports:

- a. Inlet/outlet,
- b. CIP spray ball,
- c. Manhole,
- d. Agitator
- e. Jacket inlet and outlet ports
- f. Lifting lugs
- g. Common platform with railing & toe guard
- h. Other standard accessories.

Instruments:

Temp. Sensor for cream

Note:

1. Supplier shall submit GA drawing for approval to the purchaser for tank prior to fabrication work in the event of placement of order.
2. Stage inspection to be offered for tanks for welding, insulation, and final inspection before dispatch

1.55) Cream Transfer Pump

Capacity : As per BOQ

Qty : As per BOQ

Type : Centrifugal, mono block

Fittings : Quick opening sanitary fittings

Material : AISI 316

Mounting : Free standing with adjustable SS ball feet

Shaft sealing : Mechanical shaft seal

Gasket : Nitrile rubber

Shroud : AISI 304 with acoustic lining

Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure.

1.56) Butter Churn with VFD Control Panel

Capacity : As per BOQ

Qty : As per BOQ

Shell Thickness : 5 mm SS-304

Frame : MS Powder coated

Water Spray Nozzle: 25 mm size dairy finish pipe with multiple holes.

Control Panel: VFD operated control panel with reverse and forward option

1.57) Butter Trolley

Capacity : As per BOQ

Qty : As per BOQ

Body Thickness : SS-304-2.5 mm

Frame : SS-304-round pipe 2" NB Size

Wheel Size – 4" PVC- 4 Nos (2 nos fix and 2 nos movable)

1.58) Butter Melting Vat

Qty : As per BOQ

Capacity : As per BOQ

Type : Horizontal Squire

Duty : Use in Butter melting

MOC : SS 304, Inner Thickness 3 mm shell& 3 mm Bottom, Intermediate dimple plate thickness 2 mm and cladding 2 mm or as per OEM with guarantee

Insulation : Suitable thickness Glass wool 100 mm insulation

Agitator : Top mounted (0.5 HP)

Accessories : Hot water circulation pump, Steam Control valve, Steam Trap, Temp. Sensor

Ports : Melted butter outlet with valve

1.59) Butter Oil Transfer Pump

Capacity : As per BOQ
Qty : As per BOQ
Type : Centrifugal, mono block
Fittings : Quick opening sanitary fittings
Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal
Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure.

1.60) Ghee Kettle (Ghee Boiler)

Capacity : Volumetric Capacity Litres 500
: Working Capacity Litres 300
: Installation Indoor

Design & Manufacturing GMP/GEP

Type : Cylindrical Conical jacketed wall

Jacket Pressure: (Hydro Test) 10 kg/cm²

Construction Details

Inner shell

Inner shell: Inner Shell Thick, SS-304 MM 5

Inner Bottom Thick, SS-304 MM 5

Intermediate jacket

Intermediate Shell Thick, SS-304 MM 6

Intermediate Bottom Thick, SS-304 MM 6

Outer Shell

Outer Shell Thick, SS-304 MM 2

Outer Top Thick, SS-304 MM 2

Outer Bottom Thick, SS-304 MM 2

Insulation Details

Glass wool MM 50

Other Details

1 No of Legs (SS 304) no 4

2 Nozzles SMS Union

3 Inlet Top (NO foam bend) MM Ø38 (01 Nos.)

4 Outlet- Bottom MM Ø51 (With BFV) and Side MM Ø51

5 Steam inlet MM Ø 25

6 Condensate outlet MM Ø 25

Inner & Outer shell 2 B Mill Finish, Polished to Grit-150

Weld Joint Ground smooth and finish

1.61) Ghee Strainer cum Balance Tank

Capacity : As per BOQ
Qty : As per BOQ
Body Thickness : SS-304-2 mm
Strainer : SS-304
Outlet : 51 mm

1.62) Ghee Transfer Pump

Capacity : As per BOQ
Qty : As per BOQ
Type : Centrifugal, mono block
Fittings : Quick opening sanitary fittings
Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal
Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure

1.63) Ghee Storage cum settling Tank

Capacity : Volumetric Capacity Litres 1000

Construction Details

Inner shell

Inner shell: Inner Shell Thick, SS-304 MM 3
Inner Bottom Thick, SS-304 MM 3

Intermediate jacket

Intermediate Shell Thick, SS-304 MM 2
Intermediate Bottom Thick, SS-304 MM 2

Outer Shell

Outer Shell Thick, SS-304 MM 2
Outer Top Thick, SS-304 MM 2.5
Outer Bottom Thick, SS-304 MM 2

Insulation Details

Glass wool MM 100

Other Details

No of Legs (SS 304) no 4
Nozzles SMS Union
Inlet Top (NO foam bend) MM Ø38 (01 Nos.)

Outlet- Bottom MM Ø51 (With BFV) and Side MM Ø51
Steam inlet MM Ø 25
Condensate outlet MM Ø 25
Chilled water inlet MM Ø 25
Chilled water outlet MM Ø 25
Inner & Outer shell 2 B Mill Finish, Polished to Grit-150
Weld Joint Ground smooth and finish

1.64) Ghee Clarifier

Capacity : As per BOQ
Qty : As per BOQ
Duty : Cleaning soiled particles from ghee
Material : AISI 304

1.65) Ghee Strainer cum Balance Tank

Capacity : As per BOQ
Qty : As per BOQ
Body Thickness : SS-304-2 mm
Strainer : SS-304
Outlet : 51 mm

1.66) Ghee Pouch Packing Machine

Capacity : As per BOQ
Qty : As per BOQ
Type : Single head machine
Capacity : 200 ml to 1000 ml packing
All other specifications shall be same as item no 1.046
Film type : co-extruded LDPE with minimum 100-micron thickness
Accuracy : 0.2% on ideal working condition for milk
0.1% bag length variation for film

1.67) Flow Plate for CIP

The flow plate shall be constructed on SS square box pipe and suitable thickness SS plate.

The flow shall have following features:

1. Incoming port for all the inlet line
2. Outgoing port for all the milk/product outlet line
3. Manual Butterfly valves at all inlet and outlet port
4. Soft water line for flushing
5. CIP forward line

1.68) CIP Return Pump

Capacity	: As per BOQ
Qty	: As per BOQ
Type	: Centrifugal, self-priming
Fittings	: Quick opening sanitary fittings
Material	: AISI 316
Mounting	: Free standing with adjustable SS ball feet
Shaft sealing	: Mechanical shaft seal
Gasket	: Nitrile rubber
Shroud	: AISI 304 with acoustic lining
Motor	: 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure

1.69) SS Pipe & Fitting for Ghee Section

Qty	: 1 Lot
Sizes	: As required
Type	: TIG welded; annealed and de-scaled tubes shall be manufactured as per The standard ASTM-A270.
Material	: AISI 304 / AISI 316 as per requirement
Finish	: Outer surface of the tubes shall be with dairy finish and inner surface Should be pickled as per dairy standard
Thickness	: The average wall thickness of tubes should be 1.6 mm up to 76.2 mm OD And 2.0 mm for diameters above 76.2 mm OD.

SS 304 Fittings

Type	: SMS or quick opening tri-clover clamp type.
Thickness	: Thickness of fitting made from tube will not be less than 1.6 mm up to 76.2 mm dia. And will not be less than 2.0 mm for above 76.2 mm dia.
Unions	: Will be complete with liner, male nut, and gasket. Liner made of Male parts will be suitable for expansion joints.
Pipe clamps	: Will be quick opening type

Supports required for pipes:

Size	: Square sections as required
Type	: Supported from walls, ceilings, and floors
Material	: AISI 304
Qty	: 1 Lot

b) Non-Return Valve: The non-return valve shall be of sanitary design and all liquid contacting parts shall conform to AISI 304. The valve sealing gasket shall be EPDM / Nitrile rubber material suitable for hot water sterilization temperature of 100 Deg. Celsius and hot acid and lye solution of 2% concentration at 85 Deg. Celsius. The non-return valve shall be with plain ends shall be suitable for direct welding on the pipes.

c) Unions: All the parts unless otherwise specified shall be made out of investment casting using AISI 304 material The union shall be complete with liner, male part, nut and sealing ring (neoprene food grade rubber gasket). The liner and male parts should be suitable for expansion joints. All the inside as well as outside surface of the union shall be with dairy finish.

d) Bend, Tee, Elbow: These fittings shall be made out of AISI 304 unless otherwise specified, process tube, TIG welded, annealed, de-scaled having outer surface mirror polished and inside pickled, manufactured as per ASTM A270. The thickness of the fittings made from the tube section should not be less than 1.6 mm up to 76 mm dia. and should not be less than 2.0 mm for above 76 mm dia. The wall thickness at any point shall not vary more than 12.5% over and under from the average wall thickness specified.

Bends and elbows shall be free from wrinkles. Tee shall have uniform flaring on the branch connection. The ovality on the open ends shall be within the permissible limit specified in the ASTM A270.

Manual Utility Valves

Capacity : Suitable

Qty : 1 Lot

1.70) Control Panel for Ghee Section

Capacity : As per BOQ

Qty : As per BOQ

CURD,LASSI & BUTTER MILK PROCESSING SECTION

1.71) SMST for Curd /Paneer milk Storage

Capacity : As per BOQ

Qty : As per BOQ

Type : Vertical, Insulated

MOC : SS 304 (inner shell & outer cladding) thickness -2.5 & 3 mm for inner Shell & 2 mm cladding

Insulation : PUF insulation of suitable thickness to ensure temp rise of 1 Deg. C in 24 hours

Accessories : Sight glass, light glass, agitator (with SS shroud), SS railing, SS ladder, SS platform (as required), sampling cock, lifting lug, nozzles for instruments etc.

1.72) Inline Filter (Pipe in Pipe)

Duty : For online filtering of milk before chilling

Capacity : As per BOQ

Quantity : As per BOQ

Material : Stainless steel confirming to AISI 304.

Strainer : Pipe in pipe type

Gasket : Food grade rubber

1.73) Milk Transfer Pump to Curd Pasteurizer

Capacity : As per BOQ
Qty : As per BOQ
Type : Centrifugal, mono block
Fittings : Quick opening sanitary fittings
Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal
Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure

1.74) Multi-Purpose Milk Pasteurizer with all accessories

Capacity : As per BOQ
Qty : As per BOQ
Temp. : 4 - 65-95 - 4/45 /90 deg. C
Gaskets : NBR, Clip on type

Test Pressure: 6 bar

Design Pressure: 8 bar

Holding time: 600 seconds

Accessories:

1. Balance tank – 200 L with float
2. Interconnecting piping
3. PHE with five section

Instruments, valves & Controls:

Note: Pasteurizer shall have ports for homogenizer connection

Holding Tubes minimum 10 minutes holding

Capacity : 10 Min.
Qty : 1 No.
Construction : Spiral circular with SS 304 outer cladding.
Insulation : Hot insulation
Accessories : inlet, outlet with thermos well

Special Note: Supplier to submit GA drawing & P & ID for approval to the purchaser before commencing the fabrication work in the event of placement

1.75) Curd Milk Homogenizer

Capacity : As per BOQ

Qty : As per BOQ

Duty : To homogenize the curd milk during the past. Process

Material : All parts in contact with the product are made of stainless steel (SS 316), Frame in CS with SS 304 cladding, the Compression block shall be made of a special high-strength stainless steel alloy and the pistons of ceramic material.

Finish : 150 Grit or mirror finish

Drive : 415 V 50 Hz Electric motor

Working Pressure: The homogenizer is required to attend creaming index of less than 10 as per the prevailing international standard used by co-operative dairies across India. The pressure shall be adjusted in two stages (manual adjustment) The Supplier is free to select the pressure range to suit the application. Homogenization valve shall be such that the complete machine is highly energy efficient.

Accessories: Two stage Homogenizing arrangement with two homogenizing valves, pressure gauges with pressure switches for safety. Provision for CIP and all other standard safety systems, in built strainers, suction pressure PT, flow dampener in suction and discharge line, bypass between suction and delivery of the homogenizer for preventing damage in case of accidental failure of any valves of discharge line etc.

Water conservation: The jacket cooling water will be re-circulated through a buffer tank after chilling

Lubrication: The Homogenizer shall be provided with a water cooling / lubrication system with flow switch for the pistons, safety device, as well as local pressure gauge

1.76) Batch Pasteurizer for misty Dahi

Capacity : As per BOQ

Qty : As per BOQ

Duty : To Boling milk and reduce water content and the curd milk pasteurizer for further processing

MOC : SS 304 with 5 mm thickness of inner shell, Intermediate MS-8 mm, 2mm for outer cladding.

Insulation : Glass Wool 100 mm (minimum) thickness.

Accessories : lifting lugs, SS ladder, steam control valve, temp.indicator

1.77) Culture Cum Lassi Tank

Capacity : As per BOQ

Qty : As per BOQ

Type : Vertical, Jacketed, Insulated

MOC : Inner shell-3 mm, intermediate Dimple jacket-2mm, Outer-2 mm cladding

Insulation : PUF insulation of suitable thickness to ensure temp rise of 1 Deg. C in 24 hours

Accessories : Sight glass, light glass, Double agitator (with SS shroud), SS railing, SS ladder, SS platform (as required), sampling cock, lifting lug

1.78) Butter Milk Preparation Tank

Capacity : As per BOQ

Qty : As per BOQ

Type : Vertical, Insulated

MOC : Inner shell-2.5 mm, Inner bottom-3mm, Outer-2 mm cladding

Insulation : PUF-75 mm insulation of suitable thickness to ensure temp rise of 1 Deg. C in 24 hours

Accessories : Sight glass, light glass, Full Scale agitator (with SS shroud), SS railing, SS ladder, SS platform (as required), sampling cock, lifting lug

1.79) PHE For Butter Milk Cooling

Capacity : As per BOQ

Qty : As per BOQ

Type : PHE type

Temp program: 45 -5 Deg. C

Gaskets : NBR, Clip on type

Test Pressure: 6 bar

Design Pressure: 8 bar

1.80) Shear Pump for Butter Milk

Capacity : As per BOQ

Qty : As per BOQ

Type : Centrifugal with specially designed impeller for shearing of Curd with water

1.81) Curd FFS Pouch Packing Machine (Common for BM & Curd)

Capacity : As per BOQ

Qty : As per BOQ

Duty : To pack the past. Butter milk & curd

All other specifications are same as per item no: 1.044

1.82) Rotary Curd Cup Filling Machine with all standard Accessories

Capacity : As per BOQ

Qty : As per BOQ

Packing Size : 200g & 400g cup

Packing dia. : As per existing Amul cup standard (80mm & 95 mm – to be Confirmed before finalization of size)

Filling Accuracy: +/- 3 to 4 gram for both size

Type : Rotary

Dosing System: Piston filler

Other Specifications:

- Fully automatic, rotary indexing type machine for filling and sealing of pre-made stackable cups and tubs.
- Common machine for curd and lassi packing
- Multi station machine with provision for dispensing from stack, filling of liquids, lid placing from stack, sealing and discharge of plastic containers (cups/tubs) as detailed below.
- The machine is capable of handling different sizes of containers and or different type of lidding foils by using of change parts which part of the tender
- Machine frame shall be in stainless steel
- Machine housing shall be with hygienically smooth and easy to clean SS external surfaces.
- Aesthetically designed front guards with interlock safety.
- Completely enclosed drive elements for protection from dust.
- Easy accessibility to the machine elements for servicing.
- Machine base with height adjustable levelling elements.
- Quick Clamp devices for tool less changeover of size parts.
- The rotary table is indexed through a precision cam indexer designed with effective acceleration / deceleration to handle liquids without spillage, driven by an AC geared motor lubricated for life in IP54

enclosure and controlled by Digital frequency controller. This is placed in a zone effectively isolated from product contact.

- Pneumatic equipment like Solenoid Valves, Pressure Regulators, Pneumatic Cylinders and Vacuum generators to perform various function based on sequence.
- SS rotary table for easy cleaning and hygiene control suitably mounted on precision bearing housing assembly and it is rigidly connected to the CAM indexer by a shaft.
- Standard stations are Cup dispenser, lid place, lid seal, & Cup discharge
- Electrically interlock to ensure No cup – No fill – No lid place – NO seal
- Machine shall be PLC operated with touch screen OP
- Changeover parts for 400g pack size to be included in the scope of supply for both the machine (separate set for each machine)

For lassi packing, please consider separate nozzle due to high viscosity and select the filling mechanism accordingly to achieve the required filling accuracy

1.83) SS trolley for cup curd packing

Capacity : As per BOQ

Qty : As per BOQ

Type : Perforated SS trolley with selves for placement of cup to incubation and then to blast room and finally in storage area This shall be a SS trolley with castor wheel mounted with perforated slaves for storage of packed cup transferring to incubation room. The trolley after curd get incubated shall be transferred to curd blast room so as to avoid manual handling to ensure firm shape of the curd and reduce separation.

Note: Supplier to submit GA drawing for approval before commencing fabrication work in the event of placement of order.

1.84) Curd Incubation Room with Electrical Heating System

Capacity/Size : Suitable

Qty : As per BOQ

Temp. : 45 Deg. C

Heater : Electrical heater with temp. Controller (continuous controller)

Duty : for incubation of curd to achieve the desired acidity in approx. 4 to 5 hours

Insulation : 60 MM 40 Kg/ M3 thick PUF 2 side PPGI sheet with even air flow

Accessories:

1. Temp indicating controller and Electrical heater switchgear in electrical panel
2. SS chequered plates for bottom in welded construction.
3. Manual sliding door for approach (Size: 2100 x 1500 mm) – 2 Nos
4. SS Railing for safety
5. Room Lights (LED type)

Note: Uniform temp. shall be ensuring in the inoculation room at all the corners and if, required circulation fans (industrial type) shall be installed. The incubation room shall be divided in to two part and PUF partition wall and 2 separate doors to be considered

1.85) Curd Blast Room (45 to 10 deg.C in 2 to 3 hour)

Capacity : As per BOQ

Qty : As per BOQ

Duty : 45 Deg. C to 10 Deg. C cooling

Insulation: Cold insulation with 120 mm thick PPGI sheet with PUF of 40 Kg/m3 Density for wall

Cold insulation of Floor shall have vapour barrier of aluminium foil/PVC sheet. One layer of tar felt sealed duly with 80:20 bitumen as per prevailing IS code and two layers of insulation covered & sealed with tar felt.

Cold insulation of column (as per requirement)

Refrigeration : Standalone refrigeration system (**Freon based**)

Temp : To cool down curd cup from + 45 Deg. To + 10 Deg. C in 2 to 3 hours' time

Other Accessories:

1. Control panel with digital temp controller
2. Manual sliding door for approach (2100 x 1500 mm)
3. Hatch door for opening in cold store
4. SS railing for safety
5. SS chequered plate for flooring
6. Room Lights (LED type)

1.86) Curd & Paneer Cold Storage

Capacity : As per BOQ

Qty : As per BOQ

Duty : 2 Deg. C to 4 Deg. C cooling

Insulation: Cold insulation with 80 mm thick PPGI sheet with PUF of 40 Kg/m3 Density for wall

Cold insulation of Floor shall have vapour barrier of aluminium foil/PVC sheet. One layer of tar felt sealed duly with 80:20 bitumen as per prevailing IS code and two layers of insulation covered & sealed with tar felt.

Cold insulation of column (as per requirement)

Refrigeration : Standalone refrigeration system (Freon based)

Temp : 2 to 4 deg.C

Other Accessories:

1. Control panel with digital temp controller
2. Manual sliding door for approach (2100 x 1500 mm)
3. Hatch door for opening in cold store
4. SS railing for safety
5. SS chequered plate for flooring
6. Room Lights (LED type)

1.87) CIP Return Pump for Butter Milk Tank

Capacity : As per BOQ

Qty : As per BOQ

Type : Centrifugal, self-priming

Fittings : Quick opening sanitary fittings

Material : AISI 316

Mounting : Free standing with adjustable SS ball feet

Shaft sealing : Mechanical shaft seal

Gasket : Nitrile rubber

Shroud : AISI 304 with acoustic lining

Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure

1.88) CIP Return Pump for Pouch Packing Machine

Capacity : As per BOQ

Qty : As per BOQ

Type : Centrifugal, self-priming

Fittings : Quick opening sanitary fittings

Material : AISI 316

Mounting : Free standing with adjustable SS ball feet

Shaft sealing : Mechanical shaft seal

Gasket : Nitrile rubber

Shroud : AISI 304 with acoustic lining

Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure

1.89) CIP Return Pump for Rotary Curd Cup Packing Machine

Capacity : As per BOQ

Qty : As per BOQ
 Type : Centrifugal, self-priming
 Fittings : Quick opening sanitary fittings
 Material : AISI 316
 Mounting : Free standing with adjustable SS ball feet
 Shaft sealing : Mechanical shaft seal
 Gasket : Nitrile rubber
 Shroud : AISI 304 with acoustic lining
 Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure

1.90) Flow Plate for milk & CIP (Near Culture Tank)

The flow plate shall be constructed on SS square box pipe and suitable thickness SS plate. The flow shall have following features:

1. Incoming port for all the inlet line
2. Outgoing port for all the milk/product outlet line
3. Manual Butterfly valves at all inlet and outlet port
4. Soft water line for flushing
5. CIP forward line
6. CIP return line with pumping as per logic
7. Spare ports for future expansion
8. Solid and flexible pieces with male union for connections
9. SS Tray for collection of products while making/breaking the contact

1.91) SS Pipe & Fitting for Curd Section

Qty : 1 Lot
 Sizes : As required
 Type : TIG welded; annealed and de-scaled tubes shall be manufactured as per The standard ASTM-A270.
 Material : AISI 304 / AISI 316 as per requirement
 Finish : Outer surface of the tubes shall be with dairy finish and inner surface Should be pickled as per dairy standard
 Thickness : The average wall thickness of tubes should be 1.6 mm up to 76.2 mm OD And 2.0 mm for diameters above 76.2 mm OD.

SS 304 Fittings

Type : SMS or quick opening tri-clover clamp type.
 Thickness : Thickness of fitting made from tube will not be less than 1.6 mm up to 76.2 mm dia. And will not be less than 2.0 mm for above 76.2 mm dia.
 Unions : Will be complete with liner, male nut, and gasket. Liner made of Male parts will be suitable for expansion joints.
 Pipe clamps : Will be quick opening type

Supports required for pipes:

Size : Square sections as required
 Type : Supported from walls, ceilings, and floors
 Material : AISI 304
 Qty : 1 Lot

b) Non-Return Valve: The non-return valve shall be of sanitary design and all liquid contacting parts shall confirm to AISI 304. The valve sealing gasket shall be EPDM / Nitrile rubber material suitable for hot water sterilization temperature of 100 Deg. Celsius and hot acid and lye solution of 2% concentration at 85 Deg. Celsius. The non-return valve shall be with plain ends shall be suitable for direct welding on the pipes.

c) Unions: All the parts unless otherwise specified shall be made out of investment casting using AISI 304 material The union shall be complete with liner, male part, nut and sealing ring (neoprene food grade rubber gasket). The liner and male parts should be suitable for expansion joints. All the inside as well as outside surface of the union shall be with dairy finish.

d) Bend, Tee, Elbow: These fittings shall be made out of AISI 304 unless otherwise specified, process tube, TIG welded, annealed, de-scaled having outer surface mirror polished and inside pickled, manufactured as per ASTM A270. The thickness of the fittings made from the tube section should not be less than 1.6 mm up to 76 mm dia. and should not be less than 2.0 mm for above 76 mm dia. The wall thickness at any point shall not vary more than 12.5% over and under from the average wall thickness specified.

Bends and elbows shall be free from wrinkles. Tee shall have uniform flaring on the branch connection. The ovality on the open ends shall be within the permissible limit specified in the ASTM A270.

Manual Utility Valves

Capacity : Suitable
 Qty : 1 Lot

1.92) Control Panel for Curd Section

Capacity : As per BOQ

Qty : As per BOQ

PANEER MILK PROCESSING & PACKING SECTION**1.93) Paneer whey storage Tank for dosing**

The system shall comprise following item/equipment.

Acid Dosing Tank (Jacketed + Insulated + Agitator):

Capacity : As per BOQ
 Qty : As per BOQ
 Duty : for Citric Acid Solution Preparation by dissolving loose matter in RO water
 Type : Vertical, insulated, Jacketed with agitator

MOC : SS 304, 2.5 mm thick top & bottom, Jacket with 2 mm Cladding
Connection : Inlet/outlet, port for steam inlet and condensate outlet
Controls : Steam control valve with TT and Temp Controller in local panel
Insulation : Hot insulation of minimum 50 mm thick

Note:

Supplier shall submit GA Drawing of the tank for approval before commencing the fabrication work and offer inspection of the tank in the event of placement of order.

1.94) Paneer Coagulation Tank (insulated)

Capacity: As per BOQ

Qty : As per BOQ

MOC : SS 304

The coagulation vat shall be built in the form of a horizontal semi cylindrical

Tank equipped with:

- a. cleaning heads
- b. Acid dosing heads
- c. Insulation
- d. A temperature sensor with digital display (Local)

The vat shall be kept at a suitable height on the SS platform so as the coagulated paneer mass can be collected manually at the outlet of the vat and all the whey shall be drained out in the whey collection trough. SS Dimple plate to be used for platform Bidder to submit the GA drawing for approval before commencing the fabrication work in the event of placement of order.

1.95) Paneer Whey Collection Trough

Capacity : Suitable to collect the whey from all the paneer vat

Qty : 1 no

MOC : SS 304

Accessories : Free standing ball feet, hooks for whey filtration cloth fixing, Common drain at suitable height

1.96) SS working platform for paneer vat and dosing tanks

Capacity : As per BOQ

Qty : As per BOQ

MOC : SS 304 square box pipes for support structure and dimple type chequered plate for platform

1.97) Paneer hoops (in SS construction)

Capacity : As per BOQ

Qty : As per BOQ

The block Molds are made of micro perforated Suitable Grade Food grade plastic or Micro perforated and microgroove stainless steel plates suitable for easy draining of whey and in same time for quick reduction of temperature of paneer. The Mold should be design in such a way that it gives ease in de molding as well as with minimum sticking of Paneer coagulum.

The scope also includes 5 nos. of SS trolley to shift the filled hoops from the whey trough to paneer pressing station. Supplier to take approval of the design before commencing the fabrication work in the event of placement of the order.

1.98) Pneumatic Paneer press with 4 stations with all standard Accessories, Pneumatic switches, FR unit, timers, and whey collection tray

Capacity : As per BOQ

Qty : As per BOQ

Duty : To give the final shape and structure to portions of Paneer

The press shall work with increasing pressure.

The pressure force and its duration shall be regulated from the operation panel.

The presses shall consist of:

- i) Supporting structure,
- ii) Pneumatic cylinders
- iii) Pressing lid with individual pressing heads.

The pressing lids shall be replaced after each day production, manually Cleaned and put into disinfection tank.

The presses shall be made of acid-proof and stainless materials.

The pressing lids shall be made of polythene/SS perforated sheet enough to withstand The pressure and hold the coagulum intact.

1.99) Paneer block cooling tank

Type : Horizontal open with SS grill specially designed for paneer Block handling

Capacity : As per BOQ

Qty : As per BOQ

MOC : SS 304

Insulation : 50 mm thick PUF

Duty : To cool the paneer block coming out from the paneer press Through circulation of chilled water

Accessories : Ball feet, inlet, and outlet for chilled water

1.100) Inline Filter (Pipe in Pipe)

Duty : For online filtering of milk before chilling
Capacity : As per BOQ
Quantity : As per BOQ
Material : Stainless steel confirming to AISI 304.
Strainer : Pipe in pipe type
Gasket : Food grade rubber

1.101) Paneer Block Cooling water PHE

Capacity : As per BOQ
Qty : As per BOQ
Type : Plate heat exchanger
Duty : To chill the water required for paneer block cooling tank (Max. delta T is 10 Deg. C)

Pressure drops: 0.5 kg/cm² maximum

Service : CW at 2.0 Deg. C

Accessories : TT with local display on CW inlet and outlet

1.102) Paneer Block Cooling Water Circulation Pump

Capacity : As per BOQ
Qty : As per BOQ
Type : Centrifugal, mono block
Fittings : Quick opening sanitary fittings
Material : AISI 316
Mounting : Free standing with adjustable SS ball feet
Shaft sealing : Mechanical shaft seal
Gasket : Nitrile rubber
Shroud : AISI 304 with acoustic lining
Motor : 415V, AC, 3 phase, 50 Hz. EFF-I (IE3) Squirrel cage induction motor with TEFC/IP 55 Enclosure

1.103) Paneer Block Cutting Table

QTY : Ass per BOQ
Capacity : As per BOQ
Duty : Use for Cutting Paneer Block and Packing
Bidder to submit the GA drawing for approval before commencing the fabrication work in the event of placement of order.

1.104) Double chambered vacuum packing machine

Capacity : As per BOQ
Qty : As per BOQ
MOC : SS 304
Chamber : Double
Min Chamber Clearance: 125 mm
Speed : 40 Seconds/cycle
Vacuum pump type: Busch / Toshniwal / Equivalent
Control : Panel with adjustable timing and pressure indication

1.105) Inline Filter (Pipe in Pipe)

Duty : For online filtering of milk before chilling
Capacity : As per BOQ
Quantity : As per BOQ
Material : Stainless steel confirming to AISI 304.
Strainer : Pipe in pipe type
Gasket : Food grade rubber

1.106) Whey transfer pump

Capacity : As per BOQ
Qty : As per BOQ
Duty : To transfer raw whey to storage tank
All other specifications are same as per item no 1.102

1.107) Whey Chilling Double Stage PHE

Capacity : As per BOQ
Qty : As per BOQ
Duty : To chill the whey to 70 -30 - 4 Deg. C
Pressure drops: 0.5 kg/cm² maximum
Service : CW at 2.0 Deg. C
Accessories : TT with local display on CW inlet and outlet

1.108) Whey Storage tank

Capacity : As per BOQ
Qty : As per BOQ
Type : Vertical, free standing ball feet, insulated
MOC : SS 304
Duty : To collect the whey generated from the paneer coagulation and feed to chiller

1.109) Whey Dispatch Pump

Capacity : As per BOQ
Qty : As per BOQ
Duty : To transfer whey to whey Transportation tanker

All other specifications are same as per item no: 1.102

1.110) SS Pipe & Fitting for Paneer Section

Qty : 1 Lot
Sizes : As required
Type : TIG welded; annealed and de-scaled tubes shall be manufactured as per The standard ASTM-A270.
Material : AISI 304 / AISI 316 as per requirement
Finish : Outer surface of the tubes shall be with dairy finish and inner surface Should be pickled as per dairy standard
Thickness : The average wall thickness of tubes should be 1.6 mm up to 76.2 mm OD And 2.0 mm for diameters above 76.2 mm OD.

SS 304 Fittings

Type : SMS or quick opening tri-clover clamp type.
Thickness : Thickness of fitting made from tube will not be less than 1.6 mm up to 76.2 mm dia. And will not be less than 2.0 mm for above 76.2 mm dia.
Unions : Will be complete with liner, male nut, and gasket. Liner made of Male parts will be suitable for expansion joints.
Pipe clamps : Will be quick opening type

Supports required for pipes:

Size : Square sections as required
Type : Supported from walls, ceilings, and floors
Material : AISI 304
Qty : 1 Lot

b) Non-Return Valve: The non-return valve shall be of sanitary design and all liquid contacting parts shall conform to AISI 304. The valve sealing gasket shall be EPDM / Nitrile rubber material suitable for hot water sterilization temperature of 100 Deg. Celsius and hot acid and lye solution of 2% concentration at 85 Deg. Celsius. The non-return valve shall be with plain ends shall be suitable for direct welding on the pipes.

c) Unions: All the parts unless otherwise specified shall be made out of investment casting using AISI 304 material The union shall be complete with liner, male part, nut and sealing ring (neoprene food grade rubber gasket). The liner and male parts should be suitable for expansion joints. All the inside as well as outside surface of the union shall be with dairy finish.

d) Bend, Tee, Elbow: These fittings shall be made out of AISI 304 unless otherwise specified, process tube, TIG welded, annealed, de-scaled having outer surface mirror polished and inside pickled, manufactured as per ASTM A270. The thickness of the fittings made from the tube section should not be less than 1.6 mm up to 76 mm dia. and should not be less than 2.0 mm for above 76 mm dia. The wall thickness at any point shall not vary more than 12.5% over and under from the average wall thickness specified.

Bends and elbows shall be free from wrinkles. Tee shall have uniform flaring on the branch connection. The ovality on the open ends shall be within the permissible limit specified in the ASTM A270.

Manual Utility Valves

Capacity : Suitable

Qty : 1 Lot

1.111) Control Panel for Paneer Section

Capacity : As per BOQ

Qty : As per BOQ

CIP SECTION

1.112) Automatic CIP Kitchen (2 CKT)

Capacity : As per BOQ

Qty : As per BOQ

Duty : One Circuit for Milk Line and Second line for Curd and other

1.113) Fully Automatic Control Panel

Capacity : As per BOQ

Qty : As per BOQ

Duty : Fully Automatic PLC Base Control Panel

1.114) CIP Supply Pump

Capacity : As per BOQ

Qty : As per BOQ

Duty : For CIP forward flow to various circuit (VFD duty)

All other specifications are same per item no: 1.102

1.115) Tubular Heat Exchanger

Capacity : As per BOQ

Qty : As per BOQ

Type : Tubular

Media of heating: Steam

Temp rise : 20 Deg. C (minimum)
MOC : SS 316
Accessories : Steam Control Valve, Steam Trap with required size

1.116) Instruments

Capacity : As per BOQ

Qty : As per BOQ

Note : All necessary instruments like Flow meter, flow switch, Conductivity Meter as per requirement in system.

1.117) Duplex filter for CIP return line

Capacity : As per BOQ

Qty : As per BOQ

MOC : SS 304

Type : Quick opening bucket type

Duty : To filter the CIP return solution

Accessories : inlet & outlet 3-way manual valve

1.118) Recuperation Tank

Capacity : As per BOQ

Qty : As per BOQ

Type : Vertical insulated

MOC : SS 304 2.5 mm & 3 mm thick inner shell & top, outer shell 2 mm thick

Insulation : 100 mm thick hot insulation of glass wool

Accessories : Sight glass, light glass, SS lifting lugs, Manhole, overflow pipe from inside, manual butterfly outlet valve, SS ladder, SS platform, SS railing, Nozzles for instruments, sample cock

Instruments & Controls:

1. Level switches (low, middle & high)

- 2. Temperature Transmitter
- 3. Automatic soft water make up pneumatic butterfly valve

1.119) Hot Water Tank

- Capacity : As per BOQ
- Qty : As per BOQ
- Type : Vertical insulated
- MOC : SS 304 2.5 mm & 3 mm thick inner shell & top, outer shell 2 mm thick
- Insulation : 100 mm thick hot insulation of glass wool
- Accessories : Sight glass, light glass, SS lifting lugs, Manhole, overflow pipe from

inside, manual butterfly outlet valve, SS ladder, SS platform, SS railing,

Nozzles for instruments, sample cock

Instruments & controls:

- 1. Level Switches (low, middle & high)
- 2. Temperature Transmitter
- 3. Automatic soft water make up pneumatic butterfly valve

Note: Supplier shall submit GA drawing for approval before commencing the fabrication work in the event of placement of order.

1.120) Lye Tank

- Capacity : As per BOQ
- Qty : As per BOQ
- Type : Vertical insulated
- MOC : SS 304 2.5 mm & 3 mm thick inner shell & top, outer shell 2 mm thick
- Insulation : 100 mm thick hot insulation of glass wool
- Accessories : Sight glass, light glass, SS lifting lugs, Manhole, overflow pipe from inside, manual butterfly outlet valve, SS ladder, SS platform, SS railing, Nozzles for instruments, sample cock

Instruments & controls:

Level Switches (low, middle & high)

Temperature Transmitter

Conductivity transmitter

Automatic soft water Make up pneumatic butterfly valve

Note: Supplier shall submit GA drawing for approval before commencing the fabrication work in the event of placement of order.

1.121) Acid Tank

Capacity : As per BOQ
Qty : As per BOQ
Type : Vertical insulated
MOC : SS 304 2.5 mm & 3 mm thick inner shell & top, outer shell 2 mm thick
Insulation : 100 mm thick hot insulation of glass wool
Accessories : Sight glass, light glass, SS lifting lugs, Manhole, overflow pipe from inside, manual butterfly outlet valve, SS ladder, SS platform, SS railing, Nozzles for instruments, sample cock

Instruments &controls:

1. Level Switches (low, middle & high)
2. Temperature Transmitter
3. Conductivity transmitter
4. Automatic soft water make up pneumatic butterfly valve

Note: Supplier shall submit GA drawing for approval before commencing the fabrication work in the event of placement of order.

1.122) Fresh Water tank

Capacity : As per BOQ
Qty : As per BOQ
Type : Vertical uninsulated
MOC : SS 304 2.5 mm & 3 mm thick shell

Accessories : Sight glass, light glass, SS lifting lugs, Manhole, overflow pipe from inside, manual butterfly outlet valve, SS ladder, SS platform, SS railing, Nozzles for instruments, sample cock

Instruments &controls:

1. Level Switches (low, middle & high)
2. Automatic soft water make up pneumatic butterfly valve

1.123) Sterilization tank

Capacity : As per BOQ
Qty : As per BOQ
Type : Vertical, cylindrical, insulated
MOC : 2.0 mm thick SS 304 inner shell and 2.0 mm thick outer cladding SS 304 in welded construction.
Insulation : Hot insulation as per relevant IS code

Accessories :

- a. SS ball feet
- b. Nozzles for high, low, and middle level
- c. Half openable top cover (Hinged)
- d. Automatic make up water butterfly valve

a. High, Low & middle level switch

b. Temp. transmitter

Note: Supplier shall submit GA drawing for approval before commencing the fabrication work in the event of placement of order.

1.124) Flow Plate of CIP forward & Return Circuit

Capacity : As per BOQ

Qty: As per BOQ

All other specifications are same as per item no: 1.30

1.125) SS Pipes, valves & Fittings for complete section

Capacity : As per BOQ

Qty : As per BOQ

All other specification is same as per item no: 1.31

1.126) SS Platform for CIP Kitchen

For Approach of conc. Acid top, the platform shall be made of SS 316 and railing should be provided. SS 316 dimple plate to be used for fabrication. SS ladder to be provided for approach.

**1.127) Acid & Lye Dosing system for process & fermented CIP
Acid Dosing Pump**

Capacity : As per BOQ

Qty : As per BOQ

Type : Diaphragm Type

Duty : To Dose concentrated Acid Solution to service tank as per concentration desired based on CT reading

Pneumatic valve shall be used to transfer conc. Acid to either process CIP acid tank or fermented CIP acid tank

Lye Dosing Pump

Capacity : As per BOQ

Qty : As per BOQ

Type : Diaphragm Type
 Duty : To Dose Concentrated Lye Solution to service tank as per concentration desired based on CT reading

: Pneumatic valve shall be used to transfer conc. Lye to either Process CIP Lye tank or fermented CIP acid tank

UTILITY SECTION

1.128) Steam Generation & Distribution (1 X 1.0 TPH Steam Solid Boiler)

Capacity : As per BOQ

Qty : As per BOQ

PARAMETERS	TECHNICAL SPECIFICATION
METEROLOGICAL DATA	
Ambient Temp.	46 °C. Max. 8 °C. Min.
Design Temp.	25 °C.
Relative Humidity	95% Max. & 26% Min.
Wind Velocity	179 km / Hr. Max.
STEAM PRODUCTION	
Capacity	As per BOQ at F & A 100°C at Steam Pr. of 10.55 kg/cm ² at actual operating conditions
Design Pressure	10.55 kg/cm ²
Safety Valve Set Pressure	10 & 10.5 kg/cm ²
Operating Pressure	9.0 kg/cm ²
Quality	Saturated 98.5 % dryness
BOILER SPECIFICATION	
Make	As per Make list
Type	coal / agro waste / wood

Design Mode	IBR
Type of mounting	Skid mounted
Tubes Thickness in mm	3.25 mm minimum
Tube Diameter in mm	50.8 mm minimum
Effective length in mm	Pl. Indicate
Foot Print of Boiler in mtrs	Indicate
Material of Construction	SA 515/516 Gr 70 / IS 2002 Gr II
Boiler Drum	
Shell Plate	SA – 516 Gr. 70, BQ Plate
Tubes	BS 3059 ERW
Manhole/Hand hole	SA 515/516 Gr 70

Pipes	SA – 106 Gr. B Sch. 80
Furnace	SA – 516 Gr. 70, BQ Plate
Plates	SA 515 / 516- 70
Header/Pipe	SA 106 Gr B
Tubes	BS 3059 ERW 320
Excess O2	For NG 2% Max. & for LDO 4.0 to 4.5 % Max.
Efficiency of Boiler without heat recovery unit	Thermal η on NCV of NG/LDO 89%
Efficiency of Boiler with heat recovery unit	Thermal η on NCV of NG 93%; LDO 92%
Chimney Outlet temperature	Approx. 130°C To 140°C
Drain Valve	Required
Vent valve	Required
Safety valve	Required
Inlet temperature indicator water side	Required
Outlet temperature indicator water side	Required
Inlet pressure indicator water side	Required
Outlet pressure indicator water side	Required
Bypass on Water Side with fittings with shut off valves	Required
Supply & Installation of interconnecting ducting from Boiler to Pressurized economizer & From economizer to chimney	Required
Bypass arrangement of pressurized economizer	Pl. indicate

MS Self Supported Chimney: Designed as per IS 6533 with suitable height. The chimney shall be designed for a boiler capacity of 1 TPH.

- (a) Lightning Arrestor
- (b) Earthling Strips
- (c) Inlet for ducting coming from boiler
- (d) Ladder & Platforms at suitable heights
- (e) Insulation & cladding of the Bottom 2 meters

Flue Gas Ducting: from boiler to Chimney complete with expansion bellows, insulation & cladding.

Mounting & Fittings

a.	Main steam stop valve	1 no.
b.	Safety valve	2 nos. (with each capable of 50% venting capacity)
c.	Feed check valve	2 nos.
d.	Auxiliary valve	1 no.
e.	Blow down valve with Automatic Blow down Control System	1 no.
f.	Isolating valve for water level controllers	2 nos.
g.	Isolating valve for pressure switches and pressure gauge	2 nos.
h.	Drain valve for water level controller	2 nos.
i.	Sight glass assembly	set

Instrumentation

a.	Water level controllers	2 nos.	for feed pump operation and low water level alarm
b.	Over-ride controller	1 no.	for lockout under extra low water level alarm
c.	Steam pressure gauge with cock	1 no.	For display of boiler steam pressure
d.	Water level gauge assembly	2 nos.	For display of water level in the boiler
c.	Switch gears, relays, connectors	1 set	For individual controls of equipment through control panel
d.	Audio / visual alarm	1 set	In case of unsafe operation for lockout under extreme conditions
e.	Pressure and temp gauge with thermostat	1 set	for burner operation
f.	Control panel	1 no.	For housing above instruments and switchgears
g.	Steam to fuel ratio monitoring system	1 no.	To monitor and display the boiler efficiency on-line, using necessary meters, instrumentation, and hardware.

MCC cum Control Panel

A MCC cum control panel, complete with main isolator switch, starters, auxiliary contactors, relays, fuses, rotary switches, indicating lamps, isolator, hooters with programmer and combustion safety relay. The panel should be completely pre wired and factory tested. It should be mounted on the boiler itself and shall not require any separate foundation.

Insulation & Cladding

The boiler should be completely insulated in the factory itself and there should not be any site work involved for insulation and electrical cabling. The cylindrical shell of boiler must be insulated with glass wool / Rock wool mattresses of desired thickness and should be housed in a box shaped CRCA covered frame giving the boiler a provides neat appearance and reducing heat loss due to the air gap between insulated shell and outer sheet metal cover. The top plate of the box should be designed to provide working platform for maintenance.

1.29) PRS for 10.5 -3.5 Bar duty with Isolation, bypass and steam trap

Capacity : As per BOQ

Qty : As per BOQ

Type : Mechanical

Pressure : 10.5 to 3.5 Bar

Accessories : Inlet & outlet isolation manual glandless type valve, Bypass valve, steam trap, safety valve and other accessories as per OEM

1.30) Steam pipes, valves & Fittings for complete plant (HP & LP) with insulation

Capacity : As per BOQ

Qty : As per BOQ

HP piping & its insulation shall be as IBR. For LP steam piping MS 'C' class pipes (ERW) IS 1239/3601/4736 shall be used. Insulation of glass wool (min 50 mm) with 22 Gauge aluminium cladding to be considered in the scope.

1.31) Freon Base Instant Refrigeration System

Type : Water cooled packaged chiller
Chiller Details : 35 TR @ -1 deg.C/0 deg. C Water
Chilled Water Flow : 21.0 m³/hr. @ operating condition
Glycol Water Supply Temp. : 0 deg.C
Glycol Water Return Temp. : 5 deg.C
Compressor Make : Danfoss/Emerson/Equi.
Type : Hermetically Sealed Compressor
Compressor Qty : 02 Nos 440/50 Hz/3 PH
Evaporator : Standard
Condenser : Standard
Primary & secondary Pump : Make - Standard-440 V/50 Hz /3 PH
Controller : Micro-Processor based
Controller Make : Mega Chill or Equip
Switch gears : Siemens /Schnider/Equi.
Refrigerant accessories : Denfos/Emerson/Equi.
Refrigerant : R-407 C/R-22
Connected Load : 55 KW
Glycol Tank capacity : 2000 ltr
Glycol Tank : 60MM Puff insulated, Outer-GIPP, Inner-SS304
Glycol : MEG 550 kg
Product Load : Milk 34 deg.C to 4 deg.C

1.32) Water Softening Plant

Capacity : As per BOQ

Qty : As per BOQ

Hard water enters the water softener tank.

The water passes through a bed of resin, which is covered in sodium or potassium ions.

The calcium and magnesium ions in the water are attracted to the resin and trade places with the sodium or potassium ions.

The resin becomes depleted over time, and the water softener needs to be regenerated with salt or potassium chloride.

Types of Resin:

Cation exchange resin (most common)

Water Softener Components:

Tank: Holds the resin and water.

Valve: Controls water flow and regeneration cycles.

Brine tank: Holds salt or potassium chloride for regeneration.

Distributor: Helps water flow evenly through the resin.

Regeneration Cycle:

Backwash: Reverses water flow to clean the resin.

Brine rinse: Replaces calcium and magnesium ions with sodium or potassium.

Rinse: Removes excess brine solution.

Refill: Replenishes salt or potassium chloride in the brine tank.

Efficiency and Performance:

Grain capacity: Measures the amount of hardness removed before regeneration is needed.

Flow rate: Measures the amount of water that can be softened per minute.

Salt efficiency: Measures the amount of salt used per regeneration cycle.

1.33) ETP Plant

Bidder to design the Aerobic and anaerobic combination type ETP for complete dairy effluent treatment. Complete design needs to be submitted for approval before commencing the work in the event of placement of order.

1.34) Reciprocating Air compressor with, Oil Filter and all standard accessories

Quantity : As per BOQ

Capacity : As per BOQ

Type : Reciprocating Air compressor

The compressor should have all controls for auto operation and pressure monitoring

Note: Bidder must ensure no oil carry over with air and for that, high quality filters must be used in outlet line and the design must be approved from client before procurement in the event of placement of the order.

ELECTRICAL, HT, PCC, MCC & DISTRIBUTION

1.35) Two Pole Structure

Capacity : AS per BOQ

Qty : As per BOQ

Type : 2 Pole/4 Pole structure for HT incoming power

Accessories : All standard accessories as per West Bengal State Electricity Board regulations

Paint : High temp. Aluminium paint

Earthing : As per WBSEB standard

1.36) HT cable from Two pole structure to HT breaker & HT breaker to Transformer

Capacity : Suitable

Qty : 1 Lot

Type : HT XLPE, with aluminium Armoured, Suitable for 33 KV HT Voltage

Rating : As per requirement

1.37) HT Panel with suitable 1 no of incomer and 2 no of outgoing feeder and one HT breaker (outdoor type at two pole structure with all standard Accessories and UV relay

Qty : As per BOQ

The system should include:

- HT panel with CT/PT and controls
- VCB one no as incomer & outgoing
- Earth fault & under voltage relay

The brief specification of HT pane shall be as follows;

1. 11 KV, triple draw out type electrically operated vacuum circuit breaker, complete with all accessories. The spring charging motors shall be 240V AC.
2. Shunt trip coil for operating on 110V DC
3. Voltage relay similar to GEC make VAGM 22- 2 nos. for two phases
4. Set of relays similar to GEC make CDG-61 relay to provide combined protection for over current, short circuit & earth leakage complete with accessories overcurrent setting 50-200% earth fault setting 10-40%

5. TNC switch for emergency tripping
6. Indicating lamps on, off, trip circuit healthy with pushbutton, auto trip, spring charged & spares suitable for operation on AC supply
7. Three numbers single phase dry type cast resin insulated potential transformer accuracy class 1.0 with secondary HRC fuses for protection. Rating 33kV/110V, 100VA.
8. Wound type cast epoxy resin insulated high voltage current transformer as per IS: 2705 of suitable ratio, with double required burden (minimum 15VA) for metering & protection. The CTS shall also be suitable for withstanding the rated short circuit current. Class of accuracy for metering shall be 1.0 & for protection 10P10. Rating 400/5/5
9. Ammeter flush mounting type of frame size 144 sq. mm & scaled for rated voltage with selection switch
10. Voltmeter flush mounting type of frame size 144-sq. mm & scaled for rated voltage with selection switch
11. Adequate auxiliary contacts & wiring for interlocking circuits fault annunciations, indicators etc.
12. Provision for cable termination kits suitable for bottom entry of 3C X 240sq-mm XLPE cable
13. Window annunciator facia with alarm bell
14. Load manager which measures (current, voltage, kVA & PF) of Emerson make. (model no EM 3380 or higher with communication)
15. Power factor transducer having 4-20mA output
16. Suitable kVA transducer having pulse & 4-20mA output
17. High speed tripping relay type equivalent to VAJH /3 GEC Alstom make
Breaker trolley and handle for operation to be included in the scope of supply

1.38) Oil Cooled Transformer (11 KV to 415V) with all standard Accessories

Capacity : As per BOQ

Qty : As per BOQ

Type : Oil type, Suitable for outdoor installation, air- cooled

Duty : 11 KV to 415 V

Instruments and controls:

Oil and winding temp. Indicator and control, Bocholt relays, on load tap changer etc.

Accessories : Air breather, conservator, explosion vent, radiator marshalling box etc.

Efficiency : Not less than 98 % at full load.

1.39) DG set with All standard Accessories

It is proposed to provide the standby power for carrying out essential operation in case of power failure. The DG set as per the quantity and capacity appearing in BOQ shall be considered with AMF system and synchronizing panel. The DG will be selected for continuous duty operation of in. 8 hours.

The facility shall be self-contained, and it should be possible to hook up the power supply into the power control center. The Supplier

Should ensure that the DG supply is connected to the essential feeders provided on the PCC. The division on essential and non-essential load distribution on the PCC with isolation breaker will be the responsibility of the Supplier.

Type : Air cooled DG set in acoustic enclosure complete with silencer and chimney

Construction : Standard packaged unit

Duty : 430 V ac

Capacity : As per BOQ

QTY : As per BOQ

Instrumentation & Control: Standard as per the IE rules

Rating : The capacity mentioned in the BOQ is KVA electrical

Note:

- a. Chimney as per pollution control board norms to be considered in the scope
- b. Control panel with suitable rating switchgear to be considered
- c. Diesel charging system to be included in the scope of supply

1.40) PCC with three incomers

Type : Suitable for indoor installation with incomer from 1 transformer and 1 from DG

Qty : As per BOQ

Construction : Modular compartmentalized construction and split into two sections with motorized bus coupler

Feeders : Incoming feeders with motorized circuit breakers (with ETU), outgoing feeders up to 800 Amps. with MCCB protection and above 800 Amps. with motorized circuit breakers. Various feeders are as mentioned above

Instruments and controls

: Digital Ammeters & voltmeters for individual feeders. Energy meters wherever required. All controls shall be built-in type. Rigid mechanical and electrical interlocking wherever required

All the ACB & MCCB in PCC shall have Digital MFM with communication facility and all data to be transferred to MIS system for report generation for individual feeders.

1.41) APFC panel with Active Harmonic Panel

REQUIRED QUANTITY : As per BOQ

RATING : Supplier to specify

The Brief Technical Descriptions of major items to be supplied shall be as follows;

1. Load Details

Load Voltage : 3 Phase, 415 V

Load Power : As per Peak load

Type of Connected Load : Linear + Non-Linear inductive type

Load Power Factor :0.85 Lagging

1. Technical Details of APFC Panel

Rated voltage : 415volts

TSC panel rating : Supplier to specify

System Frequency : 50Hz, +/-1Hz

Number of steps : Five (min)

Reactor in series with capacitor: As per design to limit the inrush current

Incoming Switchgear : ACB- suitable rating

kVAR of each branch : Supplier to specify

TSC branch connection: Internal Delta

Ampere rating for selection of AHF shall meet harmonic suppression as per full load.

Overload rating

Current : 20% of the designed value

Voltage : 10% continuous, 15% for 30minutes with 50% duty cycle

Switching device : Thyristor

Control of switching : Auto / Manual override

Tuning : Tuned to avoid the harmonic current to enter in.

Panel Temp. : 50° Maximum

Insulation : 2.5kV rms for one minute

First level protection : HRC fuse

Second level protection: ACB- suitable rating

Type of conductors : Copper

Type of bus bar : Aluminium electrolytic grade

Type of inductor : Gapped Iron Core

Type of Capacitor : Metalized polypropylene (MPP) self-healing type

Fuse : HRC

Controller : Supplier to specify

Protection CT : xxx/1Amp.

Protection PT : 415/8.6Volts

Measurement PT : XXXX / 110 volt (11 kV side)

Measurement CT : XXX / 1amp, 11 kV side, burden 5VA (max)

Cooling : Forced Air

Discharge device on Capacitor:

Residual voltage : 50 volts

Time : 3 minutes

Panel : CRCA with powder coating, with Siemens GRAY colour shade (RAL7032)

Dimensions of panel : Supplier to specify

2. Capacitor Details

Rated voltage : 415

Rated frequency : 50

Dielectric : Polypropylene

Phase : Single

Container : Aluminium

Mounting arrangement : Stud type

Maximum over voltage : 1.2 times

Maximum over current : 1.3 times

Capacitance tolerance : +10%

Maximum ambient temp .: 55Deg

Internal connection : Single phase

Discharge devices : Resistor

Capacitor type : MPP dielectric

Watt losses per unit : <0.2watts / kvar

Unit Kvar Capacity : 10

Protection class : IP – 43

Protection against over voltages & transients: Yes

Protection against harmonics, Stringent harmonic duty

Capacitor : Heavy duty

Capacitor bushing details : Pin type connector

Terminal detail : Two stud at top of the capacitor.

Tests on capacitor:

Following tests shall be carried out for selected capacitor;

Routine tests as per IS 2834 / IS 13585.

Visual inspection

Sealing Test

Test for Output & Capacitance

Insulation resistance test.

Voltage test between Terminals.

Voltage Test between terminals & containers.

Test for efficiency of discharge device

Measurement of Tangent of dielectric loss angle (Tan delta)

Type Test

Thermal stability test.

Tan delta & capacitor loss test

Capacitance discharge test.

1.42) MCC for complete plant

Type : Suitable for indoor installation with a provision for expansion.

Qty : 1 Lot

Feeders : Incoming feeders from both the sections of power control center to MCC for essential loads. All outgoing feeders shall have isolation facility, fuse, contactor, microprocessor-based overload protection relay with communication facilities & Display, necessary operating controls etc. All feeders above 10 HP shall have Star Delta starter with ammeters.

1.43) Power & Control cables for complete plant

Qty : 1 Lot

All LT power cables shall be weatherproof, PVC sheathed, steel armoured, PVC coated, aluminium conductor cables to be used for load more than 10 HP. For less than 10 HP load, Armoured CU Cable shall be used. Copper cable less than 2.5 shall not be used for power.

For separators and homogenizers & other special machine/equipment, type of cable to be used as per OEM recommendation only

Control Cables

Qty : 1 Lot

All control cables shall be PVC, copper armored cable of suitable rating. Less than 1.5 sq. mm cable shall not be used for power control cable. Please note that all control cable required is armored type and Supplier strictly follow the same. Deviation shall not be entertained as it is a specific requirement of the purchaser.

1.44) Earthing (power and Electronic) for complete plant

Qty : 1 Lot

To provide earth pits and earthing cables to all sections of the plant with a max. Earth resistance of one ohm or as per the regulations of local Electrical Inspectorate.

The earth pits and earthing system of instrumentation, computers and controls shall not share the earthing system of electrical power equipment.

All earthing mains shall be galvanized. The earthing to the equipment will be with the help of PVC coated aluminium cable.

All earthing drawings are to be submitted (for insurance purpose as per safety norms)
Separate Earthing pit to be considered for automation and instrumentation system.

1.45) Perforated GI cable trays

Qty : 1 Lot

These shall be perforated type, heavy duty, inward bend shape, manufactured from mild steel conforming to IS-226 and hot dip galvanized as per IS-2629/BS-729 for laying of cables. Width of cable tray shall be as per the requirement. Height to be minimum 50 mm and thickness of plate shall be 1.5 mm up to 300 mm cable tray width. For cable trays having width more than 300 mm, height to be 75 mm and thickness of plate shall be 2.0 mm. Cable trays shall be of standard lengths of 2.5 M. Necessary accessories of cable trays such as coupler side plates for joining cable trays, bends, riser, inside riser, tee etc. shall also be supplied.

Cable trays shall be of GI perforated type of suitable width as required. Cable tray for automation network/ instrument/signal cables shall be separate from power & control cables.

Note: Supplier to consider top cover for cable trays.

1.46) RCP & JB for electrical system

Qty : 1 Lot

To be installed wherever necessary as per detailed engineering. All the JBs in process areas shall be of SS/Semi-transparent poly carbonate type, IP 67.

1.47) Mics electrical items - GI conduits, rubber mat etc.

Conduits

Quantity : 1 Lot

For laying of cables under floor, GI class 'A' pipes shall be used. For laying cable in air whereas cable trays are not being used, GI 'A' class pipe shall be used. Size of pipe shall depend upon the overall outer diameter of cable to be drawn through pipe. No pipe less than 40 mm dia. shall be used for this purpose.

In milk & milk product handling area conduit, in process / CIP / waterlogged area and wherever required, of SS-304 tubes, shall be used. Drop down conduit from cable tray to individual motor within the plant building in process area shall be of AISI 304. Outside process area & MCC room shall be GI.

Rubber mat

Qty : 1 Lot

To be supplied for complete electrical installation at PCC room as well as for All MCC.

Following safety and electrical items/equipment to be considered in the scope;

1. 33 kV operating rod
2. 33 kV suitable hand Gloves
3. Fire buckets with stand for fire safety in transformer/switch yard
4. Fire extinguisher (CO2 base) for electrical HT substation, PCC room, MCC room, control room and other strategic area – 15 nos.

Electrical Gloves

Qty : 1 Lot

HT Operating Rod

Qty : 1 Lot

HT Operating Rod provide a safe way to operate a High Voltage Equipment

Fire Bucket

Capacity : As per BOQ

Qty : As per BOQ

Fire Buckets with stand for fire safety in Transformer, Switch Yard, and D.G. Set.

1.48) SS & MS Structural Supports

SS-304 structures for platforms, product/ CIP/ utility pipes, cable tray supports, Crossover/ working table etc.

All supports inside the plant/corridor & tanker bay shall also be of SS-304 box section (2.5 mm thk. minimum).

Below mentioned areas are to be considered for SS-304 structural and fabrication work:

- SS304 structural supports for all product/ CIP/ Utility piping, cable trays/conduits etc. in the tanker reception and tanker dispatch area
- SS 304 Collapsible platform and railing for tanker reception, dispatch and CIP bay.
- SS304 structural supports for all product/ CIP/ Utility piping, cable trays/conduits etc. all production area, CIP area, Indoor plant corridor etc.
- Self-supported SS304 platforms for approach of all Indoor product tanks of milk, cream, CIP etc. with staircase and SS railing. In addition to all above mentioned requirement required SS structural platform & supports shall be provided as per functional requirements of the plant operation and maintenance.

MS (GI) structures for outdoor pipe bridge, silo / tank platforms etc.

- These shall be provided for fabricating platforms, outdoor pipe support on service bridges etc.
- These shall include ISMB, ISMC, MS box section, angles, flats, bars, MS plates, chequered plate, handrails of minimum 900 mm height, toe guard etc. The platforms shall have frame underneath and bracing members of suitable sections. Access ladders and structural supports of B class pipe/ISMC channel shall be provided within the scope of the works for structural works quoted.
- MS 5mm thick chequered plate for the trenches shall be provided wherever required as covers, platform, partition etc.

Below mentioned areas are to be considered for GI/MS structural work:

Outdoor pipe bridges for all product/ CIP/ Utility piping, cable trays etc.

In addition to all above mentioned requirement required GI/MS structural platform & supports shall be provided as per function requirement of the plant operation and maintenance.

SS Dimple plate for platform shall be minimum 1.6 mm thick.

1.49) Erection & Commissioning

Qty : 1 Job

The scope of E & C includes unloading at site, unpacking, shifting, positioning, erection, testing and commissioning of all above items/equipment (from Sr. no1.001) including the following;

- A. The Supplier has to carry out the complete erection, testing and commissioning of the Equipment for Milk, Cream Processing & storage, pouch packing, Fat Handling, on turnkey basis.
- B. The works shall be carried in the best workman like manner in conformity to the relevant codes of practices of BIS or international standards applicable for Dairy Process, mechanical and electrical installations.
- C. While unloading the equipment, Erection, testing and commissioning of Milk processing and utility machinery all the safeties related to men, machinery and material shall be in the scope of the contractor hence every care has to be taken along with necessary insurance coverage till the handing over of the machineries in working conditions to the purchaser.
- D. The erection works including the following.
 - shifting of equipment from the unloaded place, decorating, aligning,

fixing to foundations, placing on foundation,

- connecting to the pipelines of product and utilities and installation of piping.
- Connecting to the electrical power Control Centre, MCC, Power cables, control cables with proper termination and providing of Communication cables, etc. and preparation of single line Diagram etc is part of this job.
- Starting and commissioning and trial runs.

- E. Supplier shall arrange and demonstrate the commissioning & performance trial runs of the entire plant as per the technical rated parameters offered in the technical proposals.
- F. During Testing and trial period, necessary operating guidelines and practices should be explained to the operating personnel and shall be trained accordingly.
- G. Training of the personnel of purchaser at different stages of assembling, installation and operations etc. should be provided. Service Engineer/key person shall stay for minimum 30 days for assistance and train the Milk Union personnel in running of the plant (after product trials are over).
- H. The Statutory Obligations related to various equipment such as DG/Gas generating Set electrical including getting statutory approvals will be part of this job. AND it is the sole responsibility of the turnkey contractor/firm to ensure the said statutory approvals from electrical inspectorate /West Bengal State Electricity Board or any other bodies required to be taken, shall be obtained and produced while commissioning of the Plant. Fees for such approval shall be reimbursed by purchaser on submission of receipt.

Special Notes to Suppliers

1. The successful Supplier shall provide 2 sets of manuals test certificates & drawings.
2. If the manufacturers upgrade their technology or change existing technology, shall ensure to render service and supply spare parts for the existing /supplied, period of minimum 15 Years.
3. Any deviation in the technical specification has to be clearly mentioned and it is the decision of purchaser to accept OR reject.
4. The tender process consisting of Technical Bid and commercial bid.
5. The Prices should not be mentioned in the Technical Bid.
6. A tender, not complying with any one of the above conditions is liable to rejection. Incomplete proposal is liable to be rejected.
7. The tenderers are requested to go through the Terms and Conditions, detailed in this document, before filling out the tender.
8. The Suppliers shall quote in Indian Rupees. The prices are fixed for the contract period.
9. Supplier to submit all data mentioned in the “data & documentation section” along with the Lay out to the offer failing to which bid shall be considered nonresponsive and shall be rejected without giving any reason thereof.

Item Description	Makes
MILK & CREAM RECEPTION, PROCESSING	
SS MILK, CIP & HOT WATER PUMPS	ALFA LAVAL/ GEA/ APV/ FRISTAM / IDMC / ZEUTECH/ EQUIVALENT
PHE TYPE MILK CHILLER / PASTEURIZER	TETRA PAK/ ALFA LAVAL/ KELVION / IDMC / EQUIVALENT

PHE TYPE CREAM CHILLER / PASTEURIZER	ALFA LAVAL / TETRA PAK/ KELVION / IDMC / EQUIVALENT
PHE/THE TYPE WATER & CIP SOLUTION HEATER	TETRA PAK/ KELVION / ZONAM/ HRS /ALFA LAVAL / IDMC/ EQUIVALENT
MILK & CIP HOSES	SAINT GOBIN / BLAUDIECK / GECITECH / MTG
CIP RETURN PUMP (SELF PRIMING)	ALFA LAVAL /APV / GEA / FRISTAM /IDMC
TRI-PURPOSE CENTRIFUGE	GEA / ALFA LAVAL/ TETRA PAK/ HMT
EPS / PUF INSULATION MATERIALS	FRICK / ICEMAKE / BLUESTAR / BEARDSSELL/ EQUIVALENT
SADDLES FOR COLD INSULATION	SUPERTHERM (LLOYD) / BEARDSSELL/ EQUIVALENT
PPGI PUF PANEL	FRICK / ICEMAKE / BLUESTAR / BEARDSSELL/ EQUIVALENT
RESIN BONDED MINERAL WOOL	LLOYD / UP TWIGA / ROCKWOOL / EQUIVALENT
COLD STORE DOORS & HATCH DOOR	METAFLEX / MIV / EQUIVALENT
MILK SILO AGITATOR (SIDE MOUNTED, SLOW SPEED)	STELZER / NORD / INOXPA/PRG/ EQUIVALENT
POUCH FILLING MACHINES	SAMARPAN / NICHROME / RMC/ EQUIVALENT
MILK HOMOGENIZER	TETRAPAK /APV/ GOMA/ EQUIVALENT
POWDER BLENDER	FRISTAM / ALFA LAVAL / IDMC / ZEUTECH
INSTRUMENTATION, CONTROLS & AUTOMATION	
VFD	SIEMENS / SCHNEIDER / DANFOSS / Allan Bradly / EQUIVALENT
LEVEL TRANSMITTER & INDICATOR	E&H / EMERSON / ANDERSON NEGLE / EQUIVALENT
TEMPERATURE / PRESSURE TRANSMITTER	E&H / EMERSON / ANDERSON NEGLE
CONDUCTIVITY & PH TRANSMITTER	E&H / EMERSON / ANDERSON NEGLE
DENSITY TRANSMITTER	E&H / EMERSON / SIEMENS
RTD	ALTOP / GIC / RADIX
PID CONTROLLER	YOKOGAWA / JUMO / TATA HONEYWELL
FLOW SWITCH	DANFOSS / SWITZER / IFM, GMBH/ ANDERSON NEGLE
LEVEL SWITCH (FLOAT TYPE & VIBRATING FORK TYPE)	E & H, ANDERSON NEGLE , P & F
	E&H / EMERSON / SIEMENS / PUNE TECTROL (ONLY FOR FLOAT TYPE)/ ANDERSON NEGLE /SAPCON
VORTEX / MAGNETIC FLOW METER	E&H / EMERSON / SIEMENS / ANDERSON NEGLE
MASS FLOW METER	E&H / EMERSON / SIEMENS /YOKAGAWA
CONTROL VALVE	SAMSON /DEMBLA/ EQUIVALENT
PRESSURE SWITCH / TEMP. SWITCH / THERMOSTAT	DANFOSS / SWITZER / INDFOSS / EQUIVALENT
PRESSURE & TEMPERATURE GAUGE	GIC / WIKA / WAAREE / EQUIVALENT

DUAL TYPE PRESSURE / TEMP GAUGES	GIC / WIKA/ WAAREE/ EQUIVALENT
LOAD MANAGER / POWER / ENERGY MONITOR	ROCKWELL / SIEMENS / ABB / L&T / CONZERV / SCHNEIDER / EQUIVALENT
PC (PERSONAL COMPUTER)	COMPAQ/HEWLETT-PACKARD/IBM LENEVO/ ACER / DELL/ EQUIVALENT
PLC SYSTEM	SCHNEIDER /SIEMENS /ROCKWELL (ALLEN BRADLEY)
ELECTRICALS	
ELECTRIC MOTORS	SIEMENS / CROMPTON / ABB / EQUIVALENT
AIR CIRCUIT BREAKER	SCHNEIDER / SIEMENS/L&T/ EQUIVALENT
MCCB	SCHNEIDER / SIEMENS/L&T/ EQUIVALENT
CONTACTORS	SIEMENS / SCHNEIDER/L&T/ EQUIVALENT
STARTER OVERLOAD RELAYS	SIEMENS / SCHNEIDER/L&T/ EQUIVALENT
TIMERS ELECTRONIC	SIEMENS / SCHNEIDER/L&T/ EQUIVALENT
SWITCH FUSE UNITS	SIEMENS / SCHNEIDER/L&T/ EQUIVALENT
MCBS	SCHNEIDER / SIEMENS /L&T/HAVELLS/ EQUIVALENT
PUSH BUTTONS	TEKNIC / ABB / SCHNEIDER / GE / ESBE
INDICATING LAMPS (LED)	TEKNIC / SCHNEIDER / EQUIVALENT
DIGITAL AMMETER & VOLTMETER	CONZERV / MECO / HPL SOCOMEC / RISHABH
ANALOG AMMETER & VOLTMETER	RISHABH / IMP / MECO / AE / EE
DIGITAL ENERGY METER	CONZERV/L&T / HPL SOCOMEC / SIEMENS
PVC CONDUIT & ACCESSORIES	PRECISION / CLIPSAL / P – PLAST / POLYCAB
POWER FACTOR METER	RISHABH / IMP / MECO / AE / CONZERV
CURRENT TRANSFORMER	KAPPA / MECO / AE / IMP / INDCOIL /BHARTI
LT POWER CABLES	POLYCAB / RPG ASIAN / HAVELL'S / KEI / EQUIVALENT
LT COPPER CONTROL CABLES	POLYCAB / RPG ASIAN / HAVELL'S / KEI / EQUIVALENT
SIGNAL & INSTRUMENT CABLE	POLYCAB / ICON /KEI/ HAVELL'S / EQUIVALENT
POWER CAPACITORS	EPCOS / SCHNEIDER / KHATAU JHANKAR / SIEMENS / UNISTAR / EQUIVALENT
APFC RELAY	SCHNEIDER /BELUKE / EPCOS / L&T / PHASITRON/ SIEMENS
CABLE TRAY	INDIANA / MEK / PILCO / ELCON / METALICA PRESSINGS / POWER CONTROLS / SILVER LINE / EQUIVALENT
ISOLATING SWITCHES	SIEMENS / L&T / ABB / SCHNEIDER / EQUIVALENT
HRC FUSES	L&T / SIEMENS / EE / C&S / BUSMANN / GE POWER
PLUG & SOCKET	LEGRAND / CLIPSAL/ SCHNEIDER / BCH / HENSEL

TERMINAL BLOCKS	WAGO / CONNECT WELL / ELMEX
ROTARY SELECTOR SWITCH	KAYCEE / SALZER / L&T / SIEMENS
CABLE GLANDS	COMMET / EX-PROTECTA / DOWELS / BRACKO
CABLE LUGS	DOWELS / COMMET
MECHANICAL INTERLOCK	L&T / SCHNEIDER / ABB /SIEMENS
ELECTRONIC SOFT STARTER	DANFOSS / L&T/ SIEMENS / ALLAN BRADLY / SCHNEIDER / ABB
SERVO VOLTAGE STABILIZER	EMERSON/SUVIK / HI-REL / ASABA/ KRYKARD
UPS	EMERSON-LIEBERT / HI-REL / APC / SUVIK / NUMERIC
SMF BATTERY	YUASA-ROCKET / FURUKAWA / EXIDE
HT VCB	Siemens /ABB / SCHNIEDER / EQUIVALENT
TRANSFORMER	VOLTAMP / ABB/ TRANSFORMER & RECTIFIER/ EQUIVALENT
DG SET	CUMMINS / KIRLOSKAR GREEN / CROMPTION GREAVES / EQUIVALENT
VALVES & PIPES (MS & GI)	
WATER VALVES (BUTTERFLY / BALL)	AUDCO / SAUNDERS / INTERVALVE / BDK / CRESCENT / FESTO / DELVAL / EQUIVALENT
WATER VALVES (DIAPHRAGM)	SAUNDERS / BDK / EQUIVALENT
NON-RETURN VALVE FOR WATER	AUDCO / INTERVALVE / BDK / LEADER
WATER FOOT VALVE	KIRLOSKAR / GG / LEADER
GI PIPES FOR WATER	TATA / JINDAL
MS PIPES FOR AIR, STEAM, CONDENSATE	TATA / JINDAL
NRV FOR AIR / OIL LINE	AUDCO / LEADER

SOLENOID VALVE FOR WATER LINE	DANFOSS / ROTEX / BURKERT / ASCO/FESTO
HOT WATER PIPE/ GLOBE VALVES	AUDCO / SPIRAX / ARMSTRONG, USA / BDK
SS PIPES & VALVES	
SS PIPES	RAJRATNA / RATNAMANI/ RENSA / EQUIVALENT
SS SEAT TYPE PNEUMATIC VALVES (MIX PROOF, TWO WAY & THREE WAY)	GEA TUCHENHAGEN / ALFA LAVAL/ APV/ TETRAPAK / IDMC / CIPRIANI
PNEUMATIC SS BUTTERFLY VALVES	GEA TUCHENHAGEN / ALFA LAVAL/ APV/ TETRAPAK / IDMC/ CIPRIANI
SS MANUAL SEAT & BUTTERFLY VALVES & FITTINGS	ALFA LAVAL / IDMC / EQUIVALENT
AIR COMPRESSORS & AIR LINE FITTINGS	
AIR COMPRESSOR (SCREW)	INGERSOL RAND /ATLAS COPCO / EQUIVALENT
REFRIGERATED AIR DRYER	INGERSOL RAND / KAISER/ ATLAS COPCO / EQUIVALENT
AIR LINES ACCESSORIES	FESTO / SMC / EQUIVALENT
AUTO DRAIN VALVE	ULTRA FILTER / ZANDER/HYDINT
WATER TREATMENT PLANT	
WATER RO PLANT/ SOFTENING	ION EXCHANGE / THERMAX / EQUIVALENT
HYDROFLOW SYSTEM	GRUNDFOS / MATHER & PLATT / EQUIVALENT
REFRIGERATION SYSTEM	
SCREW COMPRESSOR UNIT	MYCOM / YORK / GEA GRASSO / FRICK
EVAPORATIVE CONDENSER	STAR COOLER / THERMAX / FRICK/ EQUIVALENT
WATER PUMPS	KIRLOSKAR/BEACON / WILO / EQUIVALENT
AMMONIA EVAPORATOR AIR COOLER	BLUE STAR/STAR COOLER/EVAPCO / EQUIVALENT
AIR PURGER	FRICK /MANIK / EQUIVALENT
STEAM GENERATOR & OTHER COMPONENTS	
BOILER	THERMAX/ JNM / BALKRISHNA BOILER/EQUIVALENT
STEAM VALVES	AUDCO / JNM/ SPIRAX / ARMSTRONG / BDK / EQUIVALENT
PRS	JNM/ THERMAX/ EQUIVALENT
LABORATORY EQUIPMENT	
SODIUM & POTASSIUM ANALYZER	THERMO SCIENTIFIC /ORION / EQUIVALENT
ACIDOMETER	FOSS ELECTRIC / METROHM / EQUIVALENT
PH METER	FOSS ELECTRIC / METTLER / METROHM / EQUIVALENT
MILK SCANNER	FOSS ELECTRIC / PERTEN INSTRUMENT / EQUIVALENT
LAB FURNITURE	GOWARDHANDAS / GODREJ / EQUIVALENT
MISCELLANEOUS ITEMS	
GEARED MOTOR / GEAR BOX	PBL / POWER MASTER / ELECON / IC BAUER/ BON FIGOLIC / EURO DRIVES
HOT WATER-WATER MIXING BATTERY	ARMSTRONG/ SPIRAX/ JN MARSHALL / SWASTIK
STRUCTURAL STEEL	SAIL / TISCO / RINL / IISCO / ESSAR

ELECTRONIC WEIGH BRIDGE (PIT LESS)	METTLER TOLEDO / SARTORIUS / ESSAE
CRATE WASHER /CAN WASHER	VISHWKARMA / SWASTIK / EQUIVALENT
CRATE CONVEYING SYSTEM	VEGA / SWASTIK / OM ENGINEERS / EQUIVALENT
SS STRUCTURAL	TATA / JINDAL

Bidder to take approval from the Tendering Authority in writing if any make is not mentioned in the above list prior to quote rate in BOQ.

BATTERY LIMITS

Bidder will be responsible to undertake all the works involved in completing the project within the battery limits prescribed below.

STEAM:

Steam generation and Distribution including, PRV, HP & LP Piping, isolation valves, NRV, condensate trap, condensate piping from various equipment to boiler house, hot Insulation, cladding, support, and distribution up to all equipment shall be in the scope of supply.

POWER:

Power shall be made available at two pole structure. Distribution thereafter including PCC panel, MCC, Power & Control cable (HT & LT), all equipment earthing, cable trays, SS/MS conduits, support, gland termination etc. shall be in the scope of this tender.

RAW WATER & SOFT WATER:

Raw water shall be made available in underground tank. Distribution thereafter including soft water generation, piping, valves, NRV, supports etc. shall be in the scope of this tender.

MILK:

Milk shall be provided by Purchaser at the outlet of tanker and can reception dock. Distribution thereafter including all pipes support, valves, NRV, insulation etc. shall be in the scope of this tender.

CIP CHEMICALS:

CIP chemical shall be made available at the outlet of concentrated lye/acid tanker. Distribution thereafter shall be in the scope of this tender.

COMPRESSED AIR:

Compressed Air shall be tapped from the nearest running header and distribution thereafter including SS pipes, supports, Header, flexible connection, instant fitting etc. shall be in the scope of this tender.

REFRIGERATION:

Generation and distribution of Chilled water including pumping, piping, cold insulation, support, cross over bridge etc. shall be in the scope of this tender.



WEST BENGAL LIVESTOCK DEVELOPMENT CORPORATION LIMITED

(A Govt. Of West Bengal Undertaking)

LB-2, Sector-III, Salt Lake City, Kolkata – 700 106

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Website: www.wbldc.in Toll Free No. 18001208243

NIT No: WBARD/WBLDC/NIT-726e/2024-25

Date of Issue: 18/07/2024

AUTOMATION:

Plant Automation for Filling, Emptying, CIP (except flow plate for making and breaking route) of complete plant including hardware, software, communication and MIS report generation required is to be considered in the scope. CIP kitchen and pasteurizer, heater and chillers shall have complete operation in auto mode through central control room.

Civil Work: All type of civil work required for processing and utility shall be in the scope of Supplier.

II. CIVIL WORKS

Bidder to consider civil work related to this Job as per followings:

- **Main plant building PEB Structure : 780 Sq. Mtr.**
- **Utility Building Area PEB Structure : 335 Sq. Mtr.**
- **Civil Work for Mezzanine Floor : 195 Sq. Mtr.**
- **Other civil works related Like Boundary Wall , Hard Park for dispatch ,Structural and finishing work, Plumbing work , Drainage, Chimney Foundation , Floor Tiles , Wall Tiles,**
- **Domestic electrification work, ETP civil work , Foundation for Equipment ,Aluminium partitions, PVC doors and windows, Main Door Shutters, Road work ,Tanker reception and CIP , Underground tanks for water storage , Firefighting system as per govt. rules and regulations Etc.**
- ✓ **Any other civil work deemed necessary as per project requirement are also included in Bidder's Scope.**

Plants & machineries in-brief

S.No	Description	Capacity	Quantity	Unit
A	Raw Milk Reception & Storage Section			
	Tankar Reception			
1.001	FDA Approved Tanker Reception Hose Pipe	51 mm X 6 Mtr	2	Nos
1.002	Tanker Unloading Flow Plate	51mm X 5 nos	1	No
1.003	Inline Filter (Pipe in Pipe)	51 mm	2	Nos
1.004	Milk Transfer Pump	10 KLPH	2	Nos
1.005	Raw Milk Chiller	10 KLPH	1	No
	Can Reception			
1.006	Can Scrubber	40 Litre	1	No
1.007	Can Drip Saver	3 Meter	1	No
1.008	Roller Convers (SS)	3 Meter	1	No
1.009	Can Tipping Bar Can Tipping Bar	Suitable	1	No
1.010	Weighing Scale with BowlWeighing Scale with bowl	500 Litre	1	No
1.011	SS dump Tank (Single Compartment)	1000 Liter	1	No
1.012	Inline Filter (Pipe in Pipe)	51 mm	2	Nos

1.013	Milk Transfer Pump	5 KLPH	2	Nos
1.014	Raw Milk PHE Chiller for Can Reception	5 KLPH	1	No
	Raw Milk Storage			
1.015	Raw Milk Storage Tank (Silo)	10 KL	2	Nos
1.016	Raw Milk Silo interconnecting platform	Suitable	1	Set
1.017	Milk Transfer Pump for Silo to Past. 5 KLPH	5 KLPH	3	No
1.018	Inter Silo Cum Dispatch Pump	Suitable	1	No
1.019	CIP Return Pump For Raw Milk Silo	Suitable	1	No
1.020	Flow Plate for Milk & CIP (Near Milk Silo)	Suitable	1	No
1.021	SS Pipe & Fitting for Raw Milk Reception Section	Suitable	1	Lot
1.022	Control Panel for Raw Milk Reception Section	Suitable	1	No
B	Reconstitution Section			
1.023	Reconstitution Milk Preparation Cum Storage Tank	5 KL	1	No
1.024	Powder Blending System with Table mounted hopper	500 kg/hr	1	No
1.025	Milk Reconstitution PHE Chiller (35-4 deg.C)	5 KLPH	1	No
1.026	Reconstitution Milk Transfer Pump	5 KLPH	2	Nos
1.027	CIP Return Pump for Reconstitution Tank	Suitable	1	No
1.028	Flow Plate for Milk & CIP (Near Reconstitution Tank)	Suitable	1	No
1.029	SS Pipe & Fitting for Reconstitution Section	Suitable	1	Lot
1.030	Control Panel for Milk Reconstitution Section	Suitable	1	No
C	Milk Processing Section			
1.031	Milk Pasteurizer with all standard accessories. Semi-automatic	5 KLPH	1	No
1.032	Tri-purpose Cream separator with all standard accessories	5 KLPH	1	No
1.033	Manual Hoist with I beam for separator bowl lifting	2 MT	1	No
1.034	SS Pipe & Fitting for Milk Processing Section	Suitable	1	Lot
1.035	Control Panel for Milk Processing Section	Suitable	1	No
D	Pasteurized Milk Storage & Packing Section			
1.036	PHE for Re-Chilling	5 KLPH	1	No
1.037	Inline Filter (Pipe In Pipe)	51 mm	2	Nos
1.038	Milk Storage Tank (HMST-Single Compartment)	10 KL	1	No
1.039	Milk Storage Tank (HMST- Double Compartment)	10 KL	2	Nos
1.040	Inline Filter (Pipe in Pipe)	51 mm	2	Nos
1.041	Flow Plate of Milk & CIP for (Near HMST Tank)	Suitable	1	No
1.042	Milk Transfer Pump	10 KLPH	2	Nos
1.043	CIP Return Pump for HMST Tank	Suitable	1	No
1.044	Milk FFS Pouch Packing Machine	5000 PPH	2	Nos
1.045	Packing Machine Table Packing Machine Table	Suitable	2	Nos
1.046	CIP Return Pump for Pouch Packing Machine	Suitable	1	No
1.047	Milk Cold Storage for Pouch Milk	15000 Liter	1	No
1.048	SS Pipe & Fitting For Packing Section SS Pipe & Fitting for Packing Section	Suitable	1	Lot
1.049	Control Panel For Packing Section Control Panel for Packing Section	Suitable	1	No
	Leakey Pouch			
1.050	Leakey Pouch Cut Open Tank	500 Litre	1	No
1.051	Milk Transfer Pump	2 KLPH	1	No
1.052	PHE Chiller	2 KLPH	1	No
E	Cream & Ghee Section			
1.053	Cream pasteurizer with all standard accessories	1 KLPH	1	No
1.054	Cream Ripping Tank	1000 Litre	2	Nos

1.055	Cream Transfer Pump	2 KLPH	1	No
1.056	Butter Churn with VFD Control Panel	500 Litre	1	No
1.057	Butter Trolley	500 Litre	2	Nos
1.058	Butter Melting Vat	500 Litre	1	No
1.059	Butter Oil Transfer Pump	1 HP	1	No
1.060	Ghee Kettle (Ghee Boiler)	500 Litre	1	No
1.061	Ghee Strainer cum Balance Tank	200 Litre	1	No
1.062	Ghee Transfer Pump	1 HP	1	No
1.063	Ghee Storage cum settling Tank	1000 Litre	1	No
1.064	Ghee Clarifier	1000 LPH	1	No
1.065	Ghee Strainer cum Balance Tank	100 Litre	1	No
1.066	Ghee Pouch Packing Machine	720 PPH	1	No
1.067	Flow Plate for CIP	Suitable	1	No
1.068	CIP Return Pump	Suitable	1	No
1.069	SS Pipe & Fitting for Ghee Section	Suitable	1	Lot
1.070	Control Panel for Ghee Section	Ice Make	1	No
F	Curd ,Lassi and Butter Milk Processing Section			
1.071	SMST for Curd /Paneer milk Storage	5 KL	1	No
1.072	Inline Filter (Pipe in Pipe)	51 mm	1	No
1.073	Milk Transfer Pump to Curd Pasteurizer	2 KLPH	1	No
1.074	Multi-Purpose Milk Pasteurizer with all accessories	2 KLPH	1	No
1.075	Curd Milk Homogenizer	2 KLPH	1	No
1.076	Batch Pasteurizer for misty Dahi	1000 Litre	2	Nos
1.077	Culture Cum Lassi Tank	1000 Litre	2	Nos
1.078	Butter Milk Preparation Tank	5 KL	1	No
1.079	PHE For Butter Milk Cooling	5 KL	1	No
1.080	Shear Pump for Butter Milk	5 KLPH	1	No
1.081	Curd FFS Pouch Packing Machine (Common for BM & Curd)	5000 PPH	1	No
1.082	Rotary Curd Cup Filling Machine with all standard Accessories	2400 CPH	1	No
1.083	SS trolley for cup curd packing	Suitable	20	Nos
1.084	Curd Incubation Room with Electrical Heating System	1000 Litre/batch	1	No
1.085	Curd Blast Room (45 to 10 deg.C in 2 to 3 hour)	1000 Litre/batch	1	No
1.086	Curd & Paneer Cold Storage	5000 kg	1	No
1.087	CIP Return Pump for Butter Milk Tank	Suitable	1	No
1.088	CIP Return Pump for Pouch Packing Machine	Suitable	1	No
1.089	CIP Return Pump for Rotary Curd Cup Packing Machine	Suitable	1	No
1.090	Flow Plate for milk & CIP (Near Culture Tank)	Ice Make	1	No
1.091	SS Pipe & Fitting for Curd Section	Suitable	1	Lot
1.092	Control Panel for Curd Section	Ice Make	1	No
G	Paneer milk processing & Packing Section			
1.093	Paneer whey storage Tank for dosing	500 Litre	1	No
1.094	Paneer Coagulation Tank (insulated)	500 Litre	4	Nos
1.095	Paneer Whey Collection Trough	500 Litre	4	Nos
1.096	SS working platform for paneer vat and dosing tanks	Suitable	1	Set
1.097	Paneer hoops (in SS construction)	330 X 330 X 130 mm	20	Nos
1.098	Pneumatic Paneer press with 4 stations with all standard Accessories	4 Head	1	No
1.099	Paneer block cooling tank	1000 Litre	1	No
1.100	Inline Filter (Pipe in Pipe)	51 mm	1	No
1.101	Paneer Block Cooling water PHE	2000 LPH	1	No

1.102	Paneer Block Cooling Water Circulation Pump	2000 LPH	1	No
1.103	Paneer Block Cutting Table	1500 X750 X 900 mm	2	No
1.104	Double chambered vacuum packing machine	Suitable	1	No
1.105	Inline Filter (Pipe in Pipe)	51 mm	1	No
1.106	Whey transfer pump	5 KLPH	1	No
1.107	Whey Chilling Double Stage PHE	5 KLPH	1	No
1.108	Whey Storage tank	10 KL	1	No
1.109	Whey Dispatch Pump	10 KLPH	1	No
1.110	SS Pipe & Fitting for Paneer Section	Suitable	1	Lot
1.111	Control Panel for Paneer Section	Suitable	1	No
H	CIP Section			
1.112	Automatic CIP Kitchen (2 CKT)	2 Circuit	1	No
1.113	Fully Automatic Control Panel	Suitable	1	No
1.114	CIP Supply Pump	15 KLPH	2	Nos
1.115	Tubular Heat Exchanger	Suitable	2	Nos
1.116	Instruments	Suitable	1	Lot
1.117	Duplex filter for CIP return line	Suitable	2	Nos
1.118	Recuperation Tank	5 KL	1	No

1.119	Hot Water Tank	5 KL	1	No
1.120	Lye Tank	5 KL	1	No
1.121	Acid Tank	5 KL	1	No
1.122	Fresh Water tank	5 KL	1	No
1.123	Sterilization tank	500 Litre	1	No
1.124	Flow Plate of CIP forward & Return Circuit	Suitable	1	Lot
1.125	SS Pipes, valves & Fittings for complete section	Suitable	1	Lot
1.126	SS Platform for CIP Kitchen	Suitable	1	Lot
1.127	Acid & Lye Dosing system for process & fermented CIP	Suitable	1	Set

I	Utility Section			
1.128	Steam Generation & Distribution (1 X 1.0 TPH Steam Solid Boiler)	1 Ton.	1	No
1.129	PRS for 10.5 -3.5 Bar duty with Isolation, bypass and steam trap	Suitable	1	NO
1.130	Steam pipes, valves & Fittings for complete plant (HP & LP) with insulation	Suitable	1	NO
1.131	Freon Base Instant Refrigeration System	35 TR	1	NO
1.132	Water Softening Plant & R O Plant	5 KLPH	1	NOS
1.133	ETP Plant	Suitable	1	NO
1.134	Reciprocating Air compressor with, Oil Filter and all standard accessories	Suitable	1	NO

J	ELECTRICAL, HT, PCC, MCC & DISTRIBUTION			
1.135	Two Pole Structure	Suitable	1	NO
1.136	HT cable from Two pole structure to HT breaker & HT breaker to Transformer	Suitable	1	NO
1.137	HT Panel with suitable 1 no of incomer and 2 no of outgoing feeder and one HT breaker (outdoor type at two pole structure with all standard Accessories and UV relay	Suitable	1	No
1.138	Oil Cooled Transformer (11 KV to 415V) with all standard AccessoriesTransformer	Suitable	1	NO
1.139	DG set with All standard Accessories	Suitable	1	NO
1.140	PCC with three incomers	Suitable	1	NO



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NIT No: WBARD/WBLDC/NIT-726e/2024-25

Date of Issue: 18/07/2024

S.No	Description	Capacity	Quantity	Unit
1.141	APFC panel with Active Harmonic Panel	Suitable	1	No
1.142	MCC for complete plant	Suitable	1	No
1.143	Power & Control cables for complete plant	Suitable	1	Lot
1.144	Earthing (power and Electronic) for complete plant	Suitable	1	Lot
1.145	Perforated GI cable trays	Suitable	1	Lot
1.146	RCP & JB for electrical system	Suitable	1	Lot
1.147	Misc electrical items - GI conduits, rubber mat etc.	Suitable	1	Lot
K	SS & MS Structural Supports			
1.148	SS & MS Structural Supports		1	LOT
L	Erection And Commissioning			
1.149	Erection & Commissioning		1	JOB

(Dr. Gouri Shankar Koner)

Managing Director

W.B.L.D.C. Ltd.

DECLARATION BY THE TENDERER
(FORM-II)

(To be uploaded under Company letter head with full address, phone no., mail id etc., duly signed & sealed)

I/We have inspected the site of work and have made myself/ourselves fully acquainted with local conditions in and around the site of work. I /We have carefully gone through the Notice Inviting e-Tender and other tender documents mentioned therein along with the scope of work. I/We have also carefully gone through the 'Priced schedule of Probable Items and Quantities'.

I/We must have a licensed electrical contractor (or executed MOU) with having supervisor SCC relevant parts, readily present at work site during the execution of electrical works after accepting the Award of Contract (AOC)

My/Our tender is offered taking due consideration of all factors regarding the local site conditions stated in this Detailed Notice Inviting e-Tender to complete the proposed construction as per drawings referred to above in all respects.

I/We promise to abide by all the stipulations of the contract documents and to carry out and complete the work in due time as mentioned in Award of Contract to the full satisfaction of the Engineer-In-Charge, **Otherwise necessary Clauses as per rules will be imposed on me/us .**

I/We also agree to procure tools and plants, at my/our own cost required for the work.

Signature & Seal of the Bidder
with Date

Certificate from Chartered Firm

(To be furnished in the Chartered Firm Official Letter Head Pad with full Address with Contact No., Telephone No., FAX No., e-mail address, Website etc.)

(FORM – III)

This is to certify that I/We have examined the audited Balance Sheet & P/L accounts and other records of M/S having its official address at It is also certified that Annual Turnover of the firm for the Financial years 2021-22, 2022-2023 & 2023-2024 are Rs.....lakh.,Rs.....lakh. & Rs.....lakh respectively (as per P/L accounts & Balance Sheet of the firm submitted)

Signature of the Chartered Firm with Registration No

Countersigned

Signature of the authorized signatory (bidder)

Affidavit Proforma
(On Non Judicial Paper worth Rs. 100/-)
(FORM – IV)

(Sworn before the Notary Public / Judicial Magistrate/Executive Magistrate on or after the date of publication of the Quotation Notice)

I, Sri/Smt. the Managing Director/Proprietor (etc.) of the Firm. ,
(Name of the firm)

At (address).....

P.O... ..

P.S.....Dist.....

do hereby solemnly affirm and declare as follows:

1. That I have not ever been convicted of any offence making myself liable to be disqualified for any work of Govt. or Govt. undertaking Organization /Institution in the State of West Bengal or other State or States.
2. That no case is pending against me or against my firm in any criminal court of law in the State of West Bengal or other State or States .
3. That my firm is not debarred/blacklisted as a whole or part thereof at present by any Govt. or Govt. undertaking Organization / Institution in the State of West Bengal or other State or States of India.
4. That, I also declare that if any information subsequently found incorrect or false will it automatically render the quotation submitted by me cancelled and make me liable for penal/legal action as per law of the country.
5. That I do further affirm that the statements made by me in this quotation are true to the best of my knowledge and belief and all the documents attached are genuine & correct.
6. That I promise to abide by all the stipulations of the contract documents and to carry out and complete the work in due time as mentioned in Award of Contract to the full satisfaction of the Engineer-In-Charge, **Otherwise necessary Clauses as per rules will be imposed on me/us**

Signature of the Deponent(s).

Name in Block letters :

Designation :

(FORM-V)

(To be furnished in the Official Letter Head of Firm/Bidder with full Address with Contact No., Telephone No., FAX No., e-mail address, Website etc.)

WORKING (CREDENTIAL) / BID ACCEPTING DETAIL
(Mandatory)

1. Name of Applicant:

2. List of similar type of work completed / ongoing:

Description of Work	Place & State	Contract No & date	Name of Address of employer	Value of contract (Rs. In Lakh)	Stipulated period of completion	Value of works remaining to be completed (Rs. Lakhs)*	Anticipated date of Completion
1	2	3	4	5	6	7	8

N.B : Suppression of any fact regarding work-in-hand will be liable for non-responsive of bid

Note : Copy of Work Order or Completion Certificate from the employer to be attached.

Signature of applicant including title and capacity in which applicant is made

CHECK LIST (FORM – VI)

Information about Bidders under Company Letter-Head (To be uploaded with the Technical Bid)

Sl.	Description	Particulars
1	Name of the Firm	
2	Registered Address with PIN, Phone No, Fax No. E-mail address etc. Sole owner or Partnership Firm/Company	
3	Name of the Person authorized to enter into & execute contractual agreement	
4	Earnest Money Transaction slip, whether uploaded, if not, Exemption Certificate to be uploaded	
5	Application Form as per FORM-I whether uploaded.	
6	Self-declaration as per FORM-II whether uploaded.	
7	Original PAN Card whether uploaded.	
8	Original Prof. Tax Clearance Cert./Paid Challan (valid up to 31/08/2024) whether uploaded	
9	Original GST registration Certificate whether uploaded.	
10	IT returns of 2022 – 2023 Financial year whether uploaded.	
11	Trade License / Certificate of Incorporation valid up to 31/08/2024 whether uploaded	
12	Credential of similar nature of work whether uploaded.(FORM-V)	
13	P.F. & E.S.I. Registration Certificate / Declaration whether uploaded.	
14	Certificate from Chartered Firm in the official pad whether uploaded. (The agency / company should have minimum annual turnover of Rs. 50 Crore) (FORM-III)	
15	Audited balance sheet for the last 3 years whether uploaded.	
16	The Bidder shall not be under a Declaration of Ineligibility for corrupt or fraudulent practices or blacklisted with any of the Government Agency whether uploaded. (FORM-IV)	

Signature & Seal of the Bidder with Date

(BANK GUARANTEE SAMPLE FORMAT)

To,
W.B.L.D.C Ltd. LB-2, Sector-III
Salt Lake City
Kolkata- 700-106

Tender Ref. No: NIT No: WBARD/WBLDC/NIT-726e/2023- 24 dt.: 18/07/2024

At request of our Client _____ having its Registered Office at _____ (hereinafter called the supplier) who has accepted the tender, for **"e -Tender on Modernization of Bishnupur Dairy of Kangsabati Milk Union, Bishnupur, Bankura-722122, West Bengal on Turnkey Basis during the year 2024-2025"** with reference to the Offer letter (**Memo No.:** _____ ; **Dated:** _____). The supplier has requested us for a performance guarantee of **Rs. _____ (Rupees _____) only** (Including Tax, Insurance and Packing).

We _____ **BANK** having its branch office _____ situated at _____, hereby agree as follows:

In the event of the supplier failing to perform their obligations under the contract for any reason what-so-ever we shall pay without any demur a sum of **Rs. _____ only**. Your receipts for the sum claimed accompanied by your statement that the contractor failed comply with contract terms notwithstanding any contestations by the supplier or any other party.

Unless a demand or claim is made in writing by you to us under this guarantee and reaches us on or before due date, all our obligations hereunder shall cease and we shall not entertain any claim after the due date _____.

In issuance of said Bank Guarantee our guarantee is unconditional and valid in your favor until _____ including the mailing period. We indemnify you against any loss or damage whatsoever and the same will be remitted as per your advices.

Notwithstanding anything contained hereinabove, our liability under this guarantee is restricted to _____ and will remain in full force up to _____. All your rights under the said guarantee shall be forfeited and we shall be relieved and discharged from all liabilities hereunder unless a written claim for payment under this guarantee is lodged on us within zero months from the date of expiry of the guarantee i.e. on or before _____, irrespective of whether or not the original guarantee is returned to us.

Notwithstanding anything contained under the said BG

1. Our liability under this Bank Guarantee shall not exceed Rs. _____ (Rupees _____) only.
2. This Bank Guarantee shall be valid up to _____ 2024.
3. We are liable to pay to guarantee amount or part thereof under this Bank Guarantee only if you serve upon us a written claim or demand on or before _____, 2024.

Place: _____

Date: _____

PROFORMA FOR AGREEMENT OF CONTRACTUAL CONTRACT

This Agreement is signed and executed on this day of....., 2024 At Kolkata.

BY AND BETWEEN

West Bengal Livestock Development Corporation Limited, A Company registered under the Companies Act, 1956 and having its registered office at LB-2, Sector-III, Salt Lake City, Kolkata – 700106 represented by its Managing Director unless his rights and obligation relating to the objects and purports of these presents are delegated, to any other officer(s) of WBLDCL hereinafter referred to as the **First Party** (which expression shall, unless excluded by or repugnant to the context, means and includes his successors, representatives, permitted assignees, liquidators and administrators) of the **ONE PART.**

A N D

....., a company registered under the Company's Act/a partnership firm/Proprietorship Firm (delete whichever is not applicable) having its Registered Office at represented by its unless his rights and obligation relating to the objects and purports of these presents are delegated, to any other officer(s) of..... hereinafter referred to as the **Second Party** (which expression shall, unless excluded by or repugnant to the context, means and includes his successors, representatives, permitted assignees, liquidators and administrators) of the **OTHER PART.**

WHEREAS the **First Party** is desirous that the work of **“e -Tender on Modernization of Bishnupur Dairy of Kangsabati Milk Union, Bishnupur, Bankura-722122, West Bengal on Turnkey Basis during the year 2024-2025”** wanted to execute the said work and for the purpose floated open Tender on line.

A N D

WHEREAS the **Second Party** offered his price against the said Tender and being eligible, his Tender having been accepted agreed to execute and complete the said work as detailed in the tender document along with bill of quantities and all other conditions.

Now, therefore, this agreement witnessed as follows:-

That the word and expression shall have same meanings as are respectively assigned to them in the general condition of the contract hereinafter referred to.

That the **Second Party** shall abide by all statutory obligations and payment statutory dues as are obligatory on the part of the **Second Party** and that any failure on his part if attracts any liability on the **First Party** the **Second Party** will, on intimation from the **First Party**, immediately compensate the same.

If any dispute or question arises any time between the parties about the rights and liabilities of each of them relating to the terms and conditions stated hereinabove shall unless and otherwise mutually resolved between the parties, the aggrieved party may refer the matter to the sole Arbitrator as may be appointed by the Govt. of West Bengal, ARD Department on reference from either Party for arbitration and the decision of the Arbitrator shall be final and binding on both the parties.

In witnesseth whereof:

The parties have set and subscribed their hands on this Agreement on the day, month and year first written.

Contractor

Managing Director.

W.B.L.D.C.Ltd.

Seal

Seal

Witness and address: –

Witness and address: –

1.

1.

2.

2.