



**THIRUVANANTHAPURAM REGIONAL CO.OPERATIVE MILK
PRODUCERS' UNION LTD. KSHEERA BHAVAN, PATTOM,
THIRUVANANTHAPURAM –695 004**

Bid Ref. No.578.A/TRU/PC/2018

TENDER FOR

**Supply of Installation, Testing and Commissioning of
Bulk Milk Coolers at Diary Co-Operative Societies in
Thiruvananthapuram &Pathanamthitta
Districts**

2018

BID FORM

1. Registered Name of Bidder :

2. Address :

3. Telephone

i) Land phone :

ii) Mobile :

iii) E-mail :

iv) Fax :



THIRUVANANTHAPURAM REGIONAL CO.OPERATIVE MILKPRODUCERS' UNION LTD.

KSHEERA BHAVAN, PATTOM, THIRUVANANTHAPURAM –695 004

Phone Nos. 2558850, 2446845 Fax: 2449567, E-mail [ID - trcmpuproj@gmail.com](mailto:trcmpuproj@gmail.com)

NOTICE INVITING TENDER

The Managing Director, Thiruvananthapuram Regional Co-operative Milk Producers Union Ltd (TRCMPU Ltd) invites online bids from reputed Manufacturers / Authorized dealers for the supply, installation, testing and commissioning of 3KL capacity Bulk Milk Cooler for Dairy Co-op Societies in Thiruvananthapuram & Pathanamthitta Districts.

1.	Tender No. & Date	578.A/TRU/PC/2018 Dated, 05/12/2018
2.	Item of Work	Supply, installation, and Commissioning of Bulk Milk Cooler at Dairy Co-Op Societies in Thiruvananthapuram & Pathanamthitta Districts.
3.	Specification	Attached
4.	Quantity Required	Thiruvananthapuram 3KL -1No Pathanamthitta 3KL-2 Nos
5.	Estimated Amount	Rs.35 Lakhs (Approx.)
6.	Bid Submission Fee	Rs.1000/-
7.	Earnest Money Deposit	Rs.35000/- (Rupees Thirty five Thousand Only)
8.	Date and Time of Publication of e- tender.	07/12/2018, 2pm
9.	Date of Submission of e-tender	07/12/2018, 2 pm to 27/12/2018, 2 pm
10.	Date and time of opening of e-tender	28/12/2018, 2 pm
11.	Place of Opening	TRCMPU Ltd., Ksheera Bhavan, Pattom Thiruvananthapuram-695004.
12.	Bid Validity	90 Days
13.	Warranty	12 months warranty from the date of commissioning.
14.	Delivery time	Within 90 days from the date of Confirmed order.

MANAGING DIRECTOR

TRCMPU LTD

3

CONTRACTOR

Terms & Conditions for e-Procurement

This tender is an e-Tender and is being published online for work / supplying of equipment as mentioned in the Invitation to bid. The tender is invited in two cover system from the registered and eligible manufacturers / suppliers through e-procurement portal of Government of Kerala (<http://www.etenders.kerala.gov.in>). Prospective bidders willing to participate in this tender shall necessarily register themselves with above mentioned e-procurement portal.

The tender timeline is available in the critical date section of this tender published in www.etenders.kerala.gov.in.

A) Online Bidders registration process:

Bidders should have a Class II or above Digital Signature Certificate (DSC) to be procured from any Registration Authorities (RA) under the Certifying Agency of India. Details of RAs will be available on www.cca.gov.in. Once, the DSC is obtained, bidders have to register on www.etenders.kerala.gov.in website for participating in this tender. Website registration is a one-time process without any registration fees. However, bidders have to procure DSC at their own cost.

Bidders may contact e-Procurement support desk of Kerala State IT Mission over telephone at 0471-2577088/188/388 or 0484-2336006, 2332262 or 0497-2764788, 2764188 or 0483-273294 or through e-mail: etendershelp@kerala.gov.in or helptender@gmail.com for assistance in this regard.

B) Online Tender Process:

The tender process shall consist of the following stages:

- i) **Downloading of tender document:** Tender document will be available for free download on www.etenders.kerala.gov.in from the date & time of publication of e-tender, till the last date & time for online submission of e-tender. However, tender document fees shall be payable at the time of bid submission as stipulated in this tender document. Downloading of tender documents will not be possible after the date specified above.
- ii) **Pre-bid meeting:** Refer page 3 of the tender document
- iii) **Publishing of Corrigendum:** All corrigenda shall be published on www.etenders.kerala.gov.in and shall not be available elsewhere.
- iv) **Bid submission:** Bidders have to submit their bids along with supporting documents to support their eligibility, as required in this tender document to www.etenders.kerala.gov.in. No manual submission of bid is allowed and manual bids shall not be accepted under any circumstances.

- v) **Opening of Technical bid and bidder short-listing:** Technical bids will be opened, evaluated and shortlisted as per the eligibility and technical qualification. All documents in support of technical qualification shall be submitted online as well as offline within the due date and time. Failure to submit the documents will attract disqualification. Bids shortlisted by this process will be taken up for opening the financial bid.
- vi) **Opening of financial bids:** Bids of the qualified bidders shall only be considered for opening and evaluation of the financial bid on the date and time mentioned in the critical date section.

C) Documents comprising bid:

i) First Stage (Pre qualification or Technical cover based on 1 cover or 2 cover tender system):

Pre-Qualification or Technical proposal shall contain the scanned copies of the following documents which every bidder has to upload.

- A. Copies of original documents defining the constitution or legal status, place of registration and principal place of business of the company or firm or partnership or if a joint venture, of each party there to constituting the bidder.
- B. Copies of Sales tax & service tax registration certificate.
- C. Details of experience and past performance of the bidder (or of each party to a joint venture) on works of similar nature, and details of current work in hand and other contractual commitments shall be submitted. Customer's full address, contact persons, contact telephone number and e-mail ID are to be furnished.
- D. The bidder should be in same business as Supplier / manufacturer for which the bid is invited for a minimum period of five years at the time of bid opening.
- E. The bidder's annual financial turnover during any one of the last two years shall not be less than twice the estimated cost as specified in the Invitation to Bid.
- F. The bidder shall have completed at least 25 number of similar installations in milk unions of Kerala for which this invitation to bid is issued during the last ten years.
- G. The bidder shall furnish a copy of the Income tax Returns for the previous year in original or certified true copies.

The department doesn't take any responsibility for any technical snag or failure that has taken place during document upload.

ii) The Second Stage (Financial Cover or as per tender cover system):

The Bidder shall complete the Price bid as per format given for download along with this tender.

Note: - The blank price bid should be downloaded and saved on bidder's computer without changing file-name otherwise price bid will not get uploaded. The bidder should fill in the details in the same file and upload the same back to the website.

Fixed price: Prices quoted by the Bidder shall be fixed during the bidder’s performance of the contract and not subject to variation on any account. A bid submitted with an adjustable/variable price quotation will be treated as non-responsive and rejected.

D) Tender Document Fees and Earnest Money Deposit (EMD)

The Bidder shall pay a tender document fee and Earnest Money Deposit or Bid Security as given in the Tender Inviting Notice. The Bid security is required to protect the purchaser against risk of Bidder’s conduct, which would warrant the forfeiture of security.

Online Payment modes: The tender document fees and EMD can be paid in the following manner through e-Payment facility provided by the e-Procurement system:

State Bank of India Multi Option Payment System (SBI MOPS Gateway): Bidder are required to avail Internet banking facility in any of the below banks for making tender remittances in e-Procurement system.

A) Internet Banking Options (Retail)			
1	Allahabad Bank	29	Janata Sahakari Bank
2	Axis Bank	30	Karnataka Bank
3	Andhra Bank	31	Karur Vysya Bank
4	Bandan Bank	32	Kodak Mahindra Bank
5	Bank of Bahrain and Kuwait	33	Lakshmi Vilas Bank
6	Bank of Baroda	34	Mehasana urban Co-op Bank
7	Bank of India	35	NKGSB Co-operative Bank
8	Bank of Maharashtra	36	Oriental Bank of Commerce
9	Bassein Catholic Co-operative Bank	37	Punjab and Maharastra Co-operative Bank
10	BNP Paribas	38	Punjab National Bank
11	Canara Bank	39	Punjab and Sind Bank
12	Catholic Syrian Bank	40	RBL Bank
13	Central Bank of India	41	Saraswat Cooperative Bank
14	City Union Bank	42	Shamrao Vithal Cooperative Bank

15	Corporation Bank	43	South Indian Bank
16	Cosmos Bank	44	Standard Chartered Bank
17	DCB Bank	45	State Bank of India
18	Dena Bank	46	Syndicate Bank
19	Deutsche Bank	47	Tamilnadu Mercantile Bank
20	Dhanalaxmi Bank	48	Tamilnadu Cooperative Bank
21	Federal Bank	49	The Kalyan Janatha Sahakari Bank
22	HDFC Bank	50	TJSB Bank(Erstwhile Thane Janata Sahakari Bank)
23	ICICI Bank	51	UCO Bank
24	IDBI Bank	52	Union Bank of India
25	Indian Bank	53	Vijaya Bank
26	Indian Overseas Bank	54	YES Bank
27	Indus Ind Bank	55	United Bank of India
28	Jammu & Kashmir Bank		

B) Internet Banking Options (Corporate)

1	Bank of Baroda	19	Karur Vysya Bank
2	Bank of India	20	Kodak Bank
3	Bank of Maharashtra	21	Lakshmi Vilas Bank
4	BNP Paribas	22	Oriental Bank of Commerce
5	Canara Bank	23	Punjab and Maharastra Coop Bank
6	Catholic Syrian Bank	24	Punjab and Sind Bank
7	City Union Bank	25	Punjab National Bank
8	Corporation Bank	26	RBL Bank
9	Cosmos Bank	27	Shamrao Vithal Cooperative Bank
10	Deutsche Bank	28	South Indian Bank

11	Development Credit Bank	29	State Bank of India
12	Dhanalaxmi Bank	30	Syndicate Bank
13	Federal Bank	31	UCO Bank
14	HDFC Bank	32	Union Bank of India
15	ICICI Bank	33	UPPCL
16	Indian Overseas Bank	34	Vijaya Bank
17	Janata Sahakari Bank	35	Axis Bank
18	Jammu & Kashmir Bank		

During the online bid submission process, bidder shall select SBI MOPS option and submit the page, to view the **terms and condition** page. On furtherer submitting the same, the e-Procurement system will redirect the bidder to MOPS Gateway, where two options, mainly **SBI and other banks*** will be shown. Here, bidder may proceed as per below.

(a). SBI Account holders shall click **SBI** option to with its Net banking facility, where bidder can enter their internet banking credentials and transfer the tender fee and EMD amount.

(b). Other bank account holders may click **other banks** option t view the bank selection page. Here bidder can select from any of the 54 banks to proceed with its net banking facility, for remitting the tender payments.

*Transaction charges for other banks vide SBI Letter No. LHO/TVM/AC/2016-17/47- 1% of transaction value subject a minimum of Rs.50/- and maximum of Rs.150/-

Any transaction charges levied while using any of the above modes of online payment has to be borne by the bidder. The supplier/contractor's bid will be evaluated only if payment status against bidder is showing "Success" during bid opening.

E) SUBMISSION PROCESS:

For submission of bids, all interested bidders have to register online as explained above in this document. After registration, bidders shall submit their Technical bid

and financial bid online on www.etenders.kerala.gov.in along with online payment of tender document fees and EMD.

For page-by-page instructions on bid submission process, please visit www.etenders.kerala.gov.in and click “Bidders Manual Kit” link on the home page.

It is necessary to click on “Freeze bid” link/icon to complete the process of bid submission otherwise the bid will not get submitted online and the same shall not be available for viewing/opening during bid opening process.

SPECIAL TERMS & CONITION

Tender for Supply, Testing and Commissioning of Bulk Milk Cooler in Thiruvananthapuram & Pathanamthitta Districts

Thiruvananthapuram Regional Co- op Milk Producers Union Ltd invites competitive rates for the supply, installation testing and commissioning of Bulk Milk Cooler in Thiruvananthapuram & Pathanamthitta Districts , subject to the following terms and conditions.

1. Eligibility and qualification requirements:

1.1 To be eligible for the award of contract, bidder shall provide satisfactory evidence to the Thiruvananthapuram Regional Co-op Milk producers Union Ltd regarding their eligibility, capacity and adequacy of resources to carry out the contract effectively. To this end all bids submitted shall include the following information.

- H. Copies of original documents defining the constitution or legal status, place of registration and principal place of business of the company or firm or partnership or if a joint venture, of each party there to constituting the bidder.
- I. Copies of Sales tax & service tax registration certificate.
- J. Details of experience and past performance of the bidder on works of similar nature, and details of current work in hand and other contractual commitments shall be submitted. Customer’s full address, contact persons, contact telephone number and e-mail ID are to be furnished.

1.2 For the purpose of this particular contract, bidder should meet the following qualifying criteria as minimum:

1. The bidder should be in business as Manufacturer / Supplier of Bulk Milk Cooler for a minimum period of ten years at the time of bid opening.
2. Annual financial turnover during the last two years shall not be less than twice the probable value of the contract as specified in the Invitation to Bid.
3. c) The bidder shall have completed at least twenty five installations of similar nature in milk unions of Kerala for which this invitation to bid is issued during the last ten years.
4. The bidder shall furnish documentary evidence for the above including copy of Income tax Returns (certified true copies) for the previous two years failure of which will lead to disqualification.
5. **The Bidder should have service setup in Kerala to attend the BMC & DG set within 24 hours in case failure / breakdown.**

2. Tender Fee & Earnest Money Deposit

- a) The Tender fee and EMD as given in the invitation to bid shall be accepted through online NEFT transaction through the site www.etenders.kerala.gov.in.
 - b) The EMD of the successful bidder shall be released after the signing of the agreement and submission of performance security.
 - c) EMD of the unsuccessful tenderer shall be released after the award of the contract and execution of agreement by the successful tenderer.
 - d) No interest shall be paid for the EMD for the period for which it lies in deposit.
3. **Agreement:** - The successful bidder has to execute a contract agreement on a Kerala stamp paper worth Rs.200/- within 15 days of receipt of order.
4. **Delivery Address:** -
Thiruvananthapuram- Muttakkadu

Pathanamthitta- Mundappally & Vechoochira

5. **Terms of payment**

- 30 % of the order value shall be released as advance against submission of Bank Guarantee issued from any Nationalized Bank for an equal amount valid till completion of supply not less than six months.
- 50% of the order value shall be released on supply of the Equipment at the Society.
- 10 % of the order value shall be released on completion of installation and commissioning of the equipment at the Society.
- 10% of the total value will be released on satisfactory completion of guarantee period of twelve months from the date of commissioning in all respect. However the said amount will be paid against a Bank guarantee valid for twelve months from the date of commissioning.

6. **The Tender should be submitted as follows**

Online Cover I

1. Details of Tender fee and EMD details.
2. Documents to prove the qualifying criteria as mentioned in clause 1 above.
 - Scanned copy of Sales Tax & Service Tax registration certificates.
 - Scanned copy Income Tax returns filed for last two years.
 - Copy of audited P&L statement and Balance Sheet for the past two years.
 - Details of previous executed orders along with address of clients, contact person, contact no, e-mail ID etc.
 - Details of contracts on hand and other contractual commitments.

Online Cover – II

Price bid in the prescribed form available as BOQ in the website www.etenders.kerala.gov.in

3. **Note to Bidders:**

- i) Bidders are advised to note the Tender Id and Tender No. & Date for reference.
- ii) All uploaded documents should contain the signature and the office seal of the bidder/authorized persons.
- iii) The Managing Director, TRCMPU Ltd., is empowered to reject any or all the bids without assigning any reason.
- iv) The TRCMPU does not blind itself to accept the lowest offer and reserve the right to accept any offer without assigning any reason. The bidders shall not have any claim in this regard.
- v) **Hard copies of the documents mentioned under cover 1 and copy of this tender document duly signed on all pages to be submitted within a day or two from the**

date of opening. Non submission of hard copies by the bidder shall lead to rejection of their offer.

Sd /-
Managing Director

Technical Specification

<u>Bulk Milk Cooler Tank</u>		
Sl.No	Particulars	Technical Specification
1	Standard applicable and cooling time required at 48 Deg. C ambient conditions	ISO 5708 Type 2II(latest version) for 2 milk collections: a) Cooling 50% of first milk collection of its rated capacity in 3 hrs from 35 Deg C to 4 Deg C b) Cooling of 100 % of milk volume after 50 % of milk is added from second milk collection (average temp 10 Deg C to 4 Deg C) in 1 hr 30 minutes
2	Rated Capacity - Litres	3000L for 2 milk collection
3	Gross Capacity - Litres	10% of rated capacity - Litres (must be 10% more than rated capacity
4	Material of Construction	AISI 304 (refer 8 & 9 below)
5	Type	closed type for BMC capacity 3 KL and above
6	Tank Evaporator	* The tank evaporator plate should have adequate surface area ensuring that the milk is cooled in the local ambient conditions of 45 Deg. C and in the time prescribed as specification above. * Laser weld with operating pressure of 30 bars and crash test pressure of 60 bars. The evaporator shall be fixed at the bottom plate of the inner tank The total evaporative area shall be divided and separate into two sections connecting to each compressor
7	Tank orientation	* the preferred space of the tank shall be circular and horizontal, *For 3000/5000 Litre BMC Tanks shall be completely closed type in cylindrical orientation with circular dish ends and manhole of size 450mm minimum on top with lockable cover *The shape of the BMC tank shall confirm to international sanitary design

8	Evaporative plate thickness	* For 3 KL BMCUs - 2 mm bottom and 0.8mm top
9	Thickness of inner/outer shell of tank	Close type (3 KL & 5 KL) inner 2.0mm, outer : 1.6 mm
10	Agitators	5708 Type 2 II (Latest version) compliance ensuring even distribution of the milk fat when milk is agitated
11	Ball Feet	AISI 304 adjustable ball feet tamper proof and lockable with 50 mm height adjustment (Preferred 6 nos. for capacities 3 KL and above)
12	Tank Fittings & accessories	Closed type for BMC (3KL and above) No- foam type inlet Outlet valve with locking arrangement and blank union All SS fittings shall be of SMS standards Air vent in SS construction with vermin proof design top Manhole with locking arrangement SS Ladder to be provided for approaching top manhole
13	Type of Insulation	Injected CFC Free PUF 40 Kg/Cu.m
14	Thickness of insulation	40 Kg/ Cu.m density 50mm (min) in the walls & 90 mm below the evaporator to allow 1 Deg. C temperature rise at given ambient conditions in 4 hours after milk is brought to 4 Deg. C and when the BMC is not operating
15	Efficiency of Insulation	0.019 W.m/k
16	Facility to measure milk volume	1 No. Dip Stick of AISI 304 3mm thick on wall of tank. Calibration accuracy 0.5%, Laminated & Framed calibration chart.
17	Product contact surface	2 B Finish
18	Weld surface finish	min. 150 Grit. All joints minimum 25mm radius curvature
19	Tank cleaning Brushes	* 1 tank Cleaning Brush and 1500 mm long pipe cleaning brush * 6 no. SS pipe hooks for 3KL 5KL BMC
20	CIP Facility	* Spray balls for closed type tank * For closed type tank facilities for cleaning in place shall be provided which include CIP spray balls and SS piping from balanced tank through milk pump to BMC & back to balance tank
<u>Milk Cooler Accessories</u>		
1	Milk Tank Control Panel	Required (Approved make)
2	Wall or Tank mounted	Wall mounted

3	MOC of Panel & Thickness	AISI 304/1.6mm
4	Temperature Display	LCD .02Deg. C with one decimal accuracy
5	Cooling & agitation control	Required controls for management of cooling control and agitation provision for cut- off / restart intermitted operation of agitator auto & manual facility
6	Battery Back - up	Required
7	RS 232 port for Temperature sensor	RS 232 connectivity for temperature data transfer shall be provided
8	Refrigeration Control Panel	Required
9	Wall mounted	Wall mounted
10	MOC of Panel & Thickness	AISI 304/1.6mm
11	Rating of contactors	Standard to meet functional requirements of the Refrigeration
12	UV/OV trip facility	Required
13	Neutral Protection unit	Required
14	Timer On Delay	Required
15	Auto / Manual Mode (Selector Switch)	Required
16	Make of components	Load break Switch, Contactors, MCB- L&T / Siemens make

Refrigeration unit

Sl.No	Particulars	Technical Specification
1	Standard	ARI standard 520-2004 & ISO 5708 Type 2A II (Latest version)
2	Design Parameters	0 deg C evaporation and minimum 55 deg C condensing
3	Type	Direct Expansion
4	Type of Refrigerant	R 404
5	Cooling capacity of each compressor	ISO 5708 Type 2A II (Latest version)
6	Number of compressor	Two
7	Model of compressor	Hermitically sealed reciprocating/ scroll (preferably Emerson Copeland make)
8	Type of condenser	Air cooled, condensing temp above 60 deg
9	Condenser volume	Standard

10	Receiver	Min 6 Ltrs
11	Condenser fan	With internal thermal protection device, enclose shall be metallic, (plastic body not permitted)
12	Pump down system	Required
13	Removable filter pad/ mesh	To be provided in front of condenser and protective grill
14	Expansion valve	Thermostatic expansion valve
15	Drier, solenoid valve, sight glass, HP/LP	To be supplied by bidder (Danfoss make)
16	Accessories	Isolation valve at suction & discharge sides of compressors, all pipes, valves fittings and control shall comply with latest relevant BIS code applicable, copper piping between tank and Condensing Unit shall be supported / routed by cable tray and cable tray supports Condenser units shall be placed on platforms

Sl.No	Particular	Technical Specification
	Servo voltage Stabilizer	Required for stabilizing the power supply to BMC from grid or DG set.
	Voltage Range	<ul style="list-style-type: none"> 300 to 500 for 3 phase BMC
	Rating	<ul style="list-style-type: none"> 20 KVA-3 phase for 3 KL BMC
	MOC, thickness and type of structure	MS power coated, 1.6 mm & pipe structure
	Accessories for 3 Phase stabilizer	40 A MCCB for incoming, 40 A phase selector, change-over and bypass switch, LED lamps, Servo controlled correction transformer. Digital VIF indicator for input and output, 63 A terminal blocks OV/UV trip with delay time, single phase preventer, static type energy meter with 10.60 A capacity, Brass metal glands MCB's (TPN 40A -2 nos, TPN 32 A-1 no. TPN 16-A1no) Metallic pump socket, Servo Motor
	Operating features	Cable entry from top, response time-5 milliseconds, should withstand 150% load on surge duty, capacity of terminals should be 150% rated current Dimmer with CGRO core separate Auto manual facility plug in type control card for each phase, correction speed-105 viz. Efficiency 99.5%
	Preferred make	ASABA/ Supra High Tech

Milk Pump Feeding System for accessories		
Sl.No	Description	Specification Requirement
	Balance Tank with SS strainer	The tank and strainer to be fabricated out of 1.6 mm SS304 sheet. General agreement drawing shall be approved by TRCMPU Ltd
	Balance tank capacity	Minimum 220L
	Tank accessories	<ul style="list-style-type: none"> • Outlet with 63.5 mm butterfly valve with expandable union and adjustable ball feet (Min 50mm vertical) • SS removable cover with handles. • SS strainer made from 1.6 mm thick SS plate with perforated plate having 2 mm dia.holes (removable type) • Outlet to end in cup type for easy draining of milk and CIP solution.

Sl.No	Particulars	Item Specification
	Milk dump tank cap.500L	SS 304 Minimum 2mmthick sheet, 500 litre (Gross) Rectangular in shape , Slope-1:15 Towards outlet (from all 3 sides) All weld joint ground smooth. All SS Surfaces to be polished to 150 grit. All inside corners shall have minimum radii of 25 mm. The top edges of the tank shall be bent outward smoothly with SMS 51 mm BFV valve at outlet. General Arrangement Drawing- Shall be approved by TRCMPU Ltd

Sl. No.	Item	Details
	Platform Balance	Eassae Terakka / Prompt / Mettler Toledo
1	Capacity	300 Kg(Accuracy +/-0.2%)
2	Resolution	20 gm
3	Load cell	Steel, bending beam, resistive strain gauge type, Load impact 300%,Shear, resistive strain gauge type IP - 68 protection.
4	Power	12 Volt DC/220 Volt AC
5	Over Load Protection	Required
6	Shock Load Protection	Required
7	Auto Tare Facility	Required
8	Auto Zero	Required
9	Computer Connectivity	Required

10	Stamping	The EWS shall be stamped from weights & measures department at site.
11	Platform Material	Stainless Steel, 1.5 mm
12	Base frame Material	Mild Steel
13	Platform size	600 X 600 mm
14	Levelling screw Type	Required
15	Over Charge Protection	Required
16	Display	7 Segment, Green/Red LED digits
17	PC Interface	RS 232

Milk Pump		
Sl.No	Particulars	Technical Specification
1	Milk Pump	
2	Material of Construction	SS 304
3	Flow Rate	10000 LPH
4	Head	10MWC
5	Pump inlet /outlet	38/38 mm SMS union
6	Power rating	Min. of 1 Hp
7	Preferred make	Alfa Laval/IDMC
8	Food grade tanker loading/unloading hose	10M length and 38mm size with SS cap, chain and union.

Water Handling System for BMC

Sl.No	Description	Specification Requirement
	HDPE water tank 1000L	The tank shall confirm to ISI:12701/96 rotational molded polyethylene (HDPE) heavy duty, hygienic construction closed type with manhole for cleaning & maintenance.
	Tank mounting arrangement for water tank	Sturdy structure of MS angle of size 40x40x5 mm duly pre-treated and hot dip galvanized after fabrication or tubular structure with power coating could be provided. The mounted tank should have approach ladder etc. Place the tank at convenient height to gravity feed the water to BMCU for cleaning etc.
	System Interconnecting Piping	Piping for cold water should be of CPVC ISI marked. Piping is required between cold water tank outlet to heat recovery unit and other point in BMC area.

Sl.No	Particulars	Item Specification
	Hot water generation unit-Heat recovery Unit with necessary piping.	<ul style="list-style-type: none"> This system shall be for heating water using heat of the discharge gas of condensing unit of BMC. It shall consist of evaporator type heat recovery unit. Tank shall be of 250 litre capacity in SS 304, 1.6mm thick constructions with suitable insulation and outlet with 25 mm ball valve. Estimated length of the piping for cold water and hot water is 15 meter, however to be supplied as per actual requirement. All controls shall be manual. The hot water should be available at around 70 Deg.c Hot water piping from heat recovery unit to BMC area <p>General Arrangement Drawing-Shall be approved by TRCMPU Ltd</p>
	Can Tipping Bar	<p>Should be a horizontal wooden bar supported on two legs of MS 'B' class pipe and flange on bottom of the pipe for grouting . Top bar should be made of teak wood. All MS surface are to be painted with a coat of epoxy primer followed by two coats of epoxy paints of ivory colour after thorough re-rusting.</p> <p>General Arrangement Drawing-Shall be approved by TRCMPU Ltd</p>
	Can Drip Saver Required for 3 & 5 Kl BMC	<p>This shall be used to recover milk residue in milk can after dumping milk of can in milk weigh bowl. A pipe structure to keep 4-5 nos. 40 litre milk in inverted slant position to drain out manually residue milk in can & then to collect it in a tray. Pipe structure- This to be made of 50 mm GI B class pipe. Collection tray- This to be made of 2 mm thick SS 304 sheet with slope towards one end & a 25 mm SS Ball valve. Approximate dimension of can drip saver 2000x465x1250mm</p> <p>General Arrangement Drawing-Shall be approved by TRCMPU Ltd</p>

DG set		
	Description	Specification Requirement
	General operating and design conditions	<p>The DG shall be of capacity</p> <ul style="list-style-type: none"> 20 KVA water cooled for 3 KL BMC <p>The DG set should be heavy duly design</p>

		<p>industrial type, rated for continuous operation for the refrigeration system, milk tank agitator & milk dispatch pump, hot water geyser (approx 2.0 KW) AMCU, Lightings, Ceiling fan. The diesel engine and alternator should be mounted on specially designed combination base plate and MS structure of extremely rigid fabrication. The base frame should be suitable for mounting the set on AVM pads over the foundation, frame should be suitable for mounting the set on AVM pads over the foundation.</p> <p>Preferred Make: Kirloskar/ Cumins/ Mahindra& Mahindra</p>
	Confirmation to regulatory norms for environment and Approval from Local authorities	<ul style="list-style-type: none"> • DG set should carry a valid approval certificate issued as per CPCB norms complying with the provisions of the Environment (Protection) second Amendment Rules 2002[vide notification no. GSR 371(E), dated 17th May 2002 and amended by GSR 448 (E) dated 12/07/2004. • Also comply with new CPCB II norms applicable from April 1,2014. • The exhaust pipe with exhaust muffler with insertion loss of minimum 25 dB (A) is connected to the exhaust manifold preferably with flexible bellows.
	Description	<ul style="list-style-type: none"> • Specification Requirement
		<ul style="list-style-type: none"> • In case the DG set is located within the BMC building, the exhaust pipe with insulation & cladding of adequate length be provided extending the original pipe over the roof of the building to avoid pollution in and around the location. • Supplier to obtain the approval of Local authorities in case it is required by the rules.
	Diesel Engine	<ul style="list-style-type: none"> • The diesel engine should be suitable for Power Generation application type air or water cooled and capable of developing required BHP when running at 1500 rpm under NTP conditions. • The engine should be built to 10000/ISO 3046/BS5514/649 and rated for continuous running of 24 hours with an overload capacity of 10% for a period not exceeding 1 hour in

		<p>any 12 hours running. Diesel engine up to 20 KW should have valid BIS license and certificate clearly mentioned use for General purpose application as per IS 10001 norms.</p> <ul style="list-style-type: none"> • Engine rating should be for operation at full load condition and should be suitable to take 100% block load. • Self-starting arrangement with 12V suitable rated heavy-duty Lead Acid accumulator type battery with Solid-state battery charging arrangement and cables. • Standard set of tools, First fill up of Lubricating oil and coolant. Lubricating oil pressure and temp. gauge. • Control panel for engine with engine safety temperature, V-belt failure, low lub oil pressure, low water level in radiator auxiliary failure, air cleaner choke indicator. • Safety control (trip) for low lube oil pressure and high water temperature • Steel Diesel Storage barrel of 200 lt. capacity with manual pump.
•	Engine Instrument Panel (Mechanical and /or electronic	Consider of Ignition key, Starting push button, Lubricating oil pressure gauge Temperature gauge for cooling water, Temperature gauge for lubricating oil RPM meter (Analog type)
	Alternator	The engine should be closely/flexible coupled to suitable self excited. Self regulated (through an AVR) alternator developing required KVA at 0.8 power factor, I phase/3 phase, 50 cycle/sec 230 volts AC power supply under NTP conditions when running at 1500 RPM. The alternator should be brushless type, screen protected and fitted with end shield and ball roller bearing. The alternator shall have 'H' class of insulation. It shall conform to IS 13364 (Part II) 1992 or IS 4722 of 1992 above 20 KVA Alternator Make: Kirloskar, Stamford, Leroy Somer
	Control Panel	<ul style="list-style-type: none"> • The diesel generating set to have suitable control panel duly pre-wired with the following instrument. • One ammeter with selector switch, One Volt

		meter with selector switch, Hour meter, Energy meter with CT, One Suitable capacity 4 pole MCCB with overload and short circuit protection to disconnect power supply in case load of generating set increase beyond permitted limits. The rupturing capacity of the MCCB should not be less than 25 KA. One set indicating lamps and control fuses.
	Power cabling & Earthing	<p>Cabling to change over switch from DG Control panel and to stabilizer from Change over switch should be as follows</p> <p>20KVA: 10 Sq. mm AYFY</p> <p>Earthing:</p> <p>20 KVA: 3 Nos pipe earth with 10 SWG Copper wire, eaerth electrodes should be interconnected.</p> <p>Cabling to equipment should be with AYFY cable and size to be suitable for the load.</p> <p>All equipment to be earthed with 2 runs of 10SWG bare copper conductor</p>
	Approval of the system	Approval & Sanction order for operating the DG set to be obtained from the Local Electrical Inspectorate Authority by the bidder

Installation & Commissioning, trial runs and putting the BMCU in operation on milk		
	Particulars	Work required to be carried out.
	Installation of BMCU and supporting accessories	<ul style="list-style-type: none"> The installation work should be carried in the best workman like manner in conformity to the relevant codes of practice of BIS standards applicable for mechanical & electrical installation. Installation of all equipments & interconnecting piping, including minor civil works such as earthing pit & chamber, providing stainless steel pipe support, SS base plates, clamps, valves union etc. required to secure the equipments and piping to walls and floors is to be provided. Supply, laying, connecting terminating a;; necessary electrical and control cables through the cable trays. GI pipes/conduits, cable gland

		<p>sockets at ends,isolators,junction boxes etc. are included in the scope of the work.</p> <ul style="list-style-type: none"> • Cable trays and supporting steel members such as Galvanized angles/channel/flats shall be used and fixed/installed at appropriate place to ensure safe installation. • The laying of cables on the floor or used the floor is not permitted except for milk pump. • Copper piping between BMC tank and condensing unit shall be supported/routed by cable tray and cable tray support.
	Interconnecting piping for the entire plant	<ul style="list-style-type: none"> • SS 304 piping 38mm dia.1.6mm thick. • Provide and install extended pipe for connecting milk hose for milk tanker loading-unloading.
	Tool box with required tools	A standard tool box of GI sheet with necessary tools form normal maintenance. It should include Electric tester, Screw Driver Set. Allen Key 3 mm &6 mm. Pipe Wrench 12” Long. Screw Spanner 6”. Fix spanner Set6-27,Gasket for SS Unions/valves-3 sets and extra mechanical seal for pump.
	Operation manuals	2 set i.e. one in local language and one in English
	P&I Drawing for the complete system offered	Drawing to be provided.
	Commissioning	Supplier shall arrange commissioning & performance trial runs of the bulk milk cooling system ensuring that BMC meets all performance parameters. In case of unavailability of Milk. Supplier gas to take trial on Water.
	Training	Supplier shall arrange for training of the operating team of DCS for efficient operation and maintenance of the complete system for 3 days.
	Warranty	All equipment (including bought out items) supplied and installed by the contractor shall have a comprehensive warranty of 12 months from date of commissioning/ 18 months from the date of supply.

Particulars	Works required to be carried out
Inspection	Client reserves right to inspect all the components of the bulk milk cooling system during fabrication/manufacturing stage, finished stage before dispatch of the equipments. The milk cooling tank shall be checked with dye penetration test for welding defect. Surface roughness check, water tightness test/hydraulic test

Name Plate: A name plate showing the following shall be provided on the equipment to be supplied for Pathanamthitta Dairy.

<p style="text-align: center;">Under NPDD Scheme Govt of India</p>

GENERAL TERMS & CONDITIONS

1. Inspection:

The equipment under the purview of your supply should be inspected by your own technical experts at your works, and such Inspection Report should be forwarded to us in triplicate. However the TRCMPU reserves its right to inspect at any stage of fabrication / manufacture of the equipment / material. You should intimate TRCMPU without fail when the equipment is ready for inspection, including the stage wise inspection. You should not proceed with further manufacture and / or dispatch of equipment, without obtaining a clearance certificate after inspection or our written permission. You should forward to us the Test Certificates wherever applicable, obtained from concerned authorities / principal manufacturers either regarding quality of any other details of the items utilized in the process of manufacture / fabrication.

2. Dispatch Instructions:

The materials are to be dispatched to the project site by the mode of transport specified in the order under intimation to us. Depending on the type of material, you shall have to carry out proper packing / crating to avoid breakages in transit. Other details of dispatch such as marking consignee's particulars etc. are mentioned in the Purchase Order. For using any mode of transport other than the specified one, prior concurrence from us in writing should be obtained. All consignments should be dispatched on freight paid basis irrespective of price basis. In the event of freight payable extra by us, you shall have to obtain our prior approval and produce necessary documentary evidence in support of your claims. Unless otherwise stated, the original RR/LR should be sent by Registered Post directly to the consignee along with a copy of invoice and 2 copies of Delivery Challan / Packing List.

3. Insurance

You shall have to arrange all transit risk insurance, warehouse to warehouse basis including storage risk coverage for a period of 6 months from the date of arrival of goods at destination for the items to be supplied by you. In cases where orders are placed on

ex-works basis, the premium shall be paid by us at actual to you against production of documentary evidence. In the event of any damage to / loss of consignment in transit, it will be your responsibility to lodge necessary claims with the carriers / underwriters and pursue them till settlement. Since the insurance policy will be obtained in our name, we shall, if required, give you necessary authorization letter authorizing you to lodge and pursue claims on our behalf with the carriers / under writers. You shall also have to make good the losses / damages occurring in transit by making replacement / payment to us in the first instance; if claims are settled by the underwriters and any amounts are realized by us, the amounts thus realized in settlement of claims shall be reimbursed to you. In other words, the prima facie responsibility for getting compensation for the damages / losses incurred, due to all transit hazards, if any, rests with you.

In cases where the purchase order is placed on “free delivery at site” basis, no insurance premium will be paid by us. However in such cases also, all transit risk insurance policy must be obtained to safeguard your own interest and to protect the material against transit hazards.

4. Delivery

The stipulated delivery time given in the Purchase Order is the essence of this contract. You must therefore, strictly adhere to the delivery schedule mentioned in the Order.

5. Demurrage

You shall bear and reimburse to us full demurrage if any, paid by reason of delay on your part in forwarding the original dispatch documents at the destination mentioned in the Purchase Order.

6. Rejection:

We reserve the right to reject the goods either in part or full if at the time of delivery, if it is noticed that the goods supplied do not conform to the specifications / description given in the Purchase Order. The rejection, if any, will be intimated to you in writing within a reasonable time. You will be liable to repair / replace the rejected goods within the stipulated time. Till the repair / replacement is made, the rejected goods shall be lying at your risk, cost and responsibility. If you do not arrange to repair / replace the rejected goods within the period stipulated by us, we may dispose of such goods at your risk and in the manner which we think fit. We shall be entitled to retain the proceeds of disposal either in part or full towards the expenses incurred on storage, handling and disposal of the rejected goods. We shall also be entitled to recover the expenses made by us on storage and handling of such rejected goods till the goods are removed from our premises/stores.

7. Liquidated Damages and Recovery of Advance:

The accepted delivery schedule of supply and/or installation shall be governed by the Liquidated Damages and Recovery of Advance clause. Each unit of an item shall be delivered to destination and ready for operation not later than the delivery date specified in the purchase order. If you fail to deliver any of the goods or perform the services within the time period(s) specified in the purchase order, TRCMPU shall without prejudice to its other remedies under this purchase order, deduct from the order price as liquidated damages, a sum equivalent to 0.5% of the full Purchase order value for each week of

delay. The total amount so deducted shall not exceed 5% of the purchase order value. Once the maximum is reached the TRCMPU may consider cancellation / termination of purchase order.

In case you fail to supply the equipment within the stipulated delivery period plus 20% of the same as grace period, subject to a minimum of 15 days, the purchase order shall stand cancelled and the supplier shall refund the advance, if paid, along with interest at the rate of 18% per annum compounded quarterly on the last day of March, June, September and December, on the advance paid, for the entire period for which the advance was retained by the supplier. This will be without prejudice to other remedies like risk purchase etc. Any incremental taxes, duties and levies on account of the delay in the execution of the purchase order by you will be to your account.

8. Guarantee

The supply of equipment as well as installation, if entrusted, shall have to be carried out by you to the entire satisfaction of TRCMPU. You shall also guarantee to repair / replace without any extra cost, the items or parts thereof, if found defective due to bad designing, workmanship or substandard material brought to your attention within 12 months from the date of putting on use / commissioning or 18 months from the date of receipt of material at site whichever is earlier. If it is necessary to send the defective equipment or parts thereof to your works for repair / replacement, without forming any precedence, the cost of repacking, loading, unloading, transportation from the site to your works and back to site shall have to be borne by you.

The guarantee however does not cover any damage resulting from normal wear and tear or improper attendance or mishandling of the equipment during repairs by personnel other than the supplier or his authorized agents.

In case of installation jobs you shall have to guarantee the complete installation for satisfactory performance for a minimum period of 12 months from the date of commissioning of the plant / equipment. Any defect arising out of faulty erection / installation or use of substandard material or workmanship shall have to be rectified by you at your cost.

9. Warranty

You must provide a warranty for a minimum period of 12 months from the date of commissioning of the equipment for satisfactory performance of the supplied equipment according to the designed / rated / installed capacity or any other norms fixed by TRCMPU.

10. Specifications & Manuals:

Operation and maintenance manuals and service instructions along with the drawings showing details of part list against each item of your supply be sent to us in triplicate. **You**

should also furnish us service requirements like water, electricity, lubricant, air etc., for each equipment wherever applicable.

You shall provide a list of spare parts, which will be required for the equipments supplied by you for at least one year of normal operation with the names and the addresses of the manufacturers from whom they can be procured. The list should contain the code numbers of the parts which are required to be procured, in addition to the machine number, models etc.

11. Submission of Bills :

Bills in triplicate under Registered Post, stating therein our Purchase Order reference along with necessary copies of Dispatch documents are to be sent to the respective Office. Unless otherwise stated the payment shall be made to you by Crossed Account Payee cheque by post according to the terms of payment mentioned in the Purchase Order.

12. Cancellation of Contract

We shall be free to cancel our order either in part or full, in the case of non-delivery of material / non-completion of installation within the stipulated delivery period or breach of any of the clauses mentioned herein. Consequential losses if any, on account of our getting installation done or obtaining supplies from alternative sources besides payment of higher price shall be recovered from you.

13. Sub- Contract

In the event of awarding sub contract to any party / parties by you for the manufacture / supply /erection of any parts / spares / components that will be used in the ordered equipment, you must furnish us details about your sub signature of bidders, their experience, specialization etc. The sub-contract can be awarded by you only after obtaining written approval from us. In the event of sub-contract also the prima facie responsibility rests on you regarding quality, quantity, guarantee / warranty of the materials supplied by the sub-signature of bidders.

14. Force Majeure

The terms and conditions mutually agreed upon shall be subject to Force Majeure Clause. Neither the supplier nor the purchaser shall be considered in default in performance of his / their obligations here under if such performance is prevented or delayed because of war, hostilities, revolution, civil commotion, strike, epidemic accident, fire, wind, flood, earthquake or because of any law order proclamation, regulation or ordinance of any Government or of any act of God or any other cause whether of similar or dissimilar nature, beyond the reasonable control of the party affected. Should one or both the parties be prevented from fulfilling his / their contractual obligations by a state of Force Majeure lasting continuously for a period of six months, the two parties should consult each other regarding the future implementation of the contract / purchase order.

15. Power

Power will be supplied free of cost at one point. The bidder shall make his own arrangements to provide necessary cables isolators etc to tap the power to the point of requirement during erection work, as per standards.

16. Arbitration

In case of any dispute, the Registrar of Co-operative Societies of Kerala State shall be the sole Arbitrator as per the provisions of Kerala Co-operative Societies Act 1969.

17. Employees state insurance

The contractor shall arrange for insurance etc. of his people employed for erection and installation work as per ESIC act workman compensation and any other provision to meet statutory requirement of various labour Act / Rules. In case of accident to any of the workers during the period of installation, TRCMPU shall not bear any liability what so ever, the entire responsibility primary and final in this respect will be that of contractor.

18. Jurisdiction

THIRUVANANTHAPURAM (KERALA) Only

FORM OF AGREEMENT

(On Non-Judicial Stamp Paper of Rs.200/-)

THIS AGREEMENT made on the ___ day of _____, 20__ between the Thiruvananthapuram Regional Co-operative Milk Producers' TRCMPU Ltd., Thiruvananthapuram - 695 004 (hereinafter referred to as "the TRCMPU ") of the one part and of _____ (hereinafter referred to as "the Contractor") of the other part:

WHEREAS the TRCMPU is desirous that certain goods and ancillary Services should be provided by the Contractor, viz. _____ and has accepted a bid submitted by the Contractor in response to the TRCMPU 's Bidding Document Reference No. _____ for the supply of those goods and services in the sum of Rs. _____ (Rupees _____ only) hereinafter referred to as "the Contract Price")

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

- In this agreement words and expressions shall have the same meaning as in the Terms & Conditions in the above-referred Tender Document.
- The following documents shall be deemed to form and be read and construed as part of this Agreement, viz:

- (a) The offer and the price schedule(BOQ) submitted by the Contractor:
- (b) The schedule of requirement and the technical specifications in Bidding Document.
- (c) The terms and conditions in Bidding Document :
- (d) The TRCMPU 's Order No. _____ dated _____.

- In consideration of the payments to be made by the TRCMPU to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the TRCMPU to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the TRCMPU's Order and Bidding Document.

- The TRCMPU hereby covenants to pay the Contractor in consideration of the provision of the Goods and Services and the remedying of defects therein, the contract price or such other sum as may become payable under the provisions of the Order at the times and in the manner prescribed in the order and Bidding Document.

IN WITNESS whereof the parties hereto have caused this agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, sealed and delivered
for and on behalf of the within
named contractor of the other part

Signed, sealed and delivered
for and on behalf of the within
named TRCMPU

CONTRACTOR.

MANAGING DIRECTOR.

TRCMPU Ltd.,

In the presence of witness

In the presence of witness

1. Signature
Name and address

1. Signature
Name and address

2. Signature
Name and address

2. Signature
Name and address
