

## **CORRIGENDUM**

Minutes of the pre-bid meeting held on 20.04.2022 at 11.30 AM for the open tender called for, for Design, Supply, Erection, Installation and Commissioning of 7LLPD capacity Fully Automatic Milk Processing Plant and 30MT capacity Whole Milk Powder Plant at Salem DCMPU Ltd., Under DIDF Scheme.

During the Pre-Bid meeting, the following points were discussed and proposed to amend the technical specification as detailed below :-

### **PART – I TECHNICAL BID**

#### **Page No:59**

##### **2.1 Structural Platforms and Tables**

Structural platforms shall be required to provide access for various equipment. Tables shall be required for handling products. These platforms and tables shall be fabricated keeping stability and other functional as well as aesthetic requirements into consideration as approved by the Purchaser. **The payment shall be made on the basis of the actual weight executed and the unit rates agreed upon or as per provisions made in the contract for such items.**

**“ May be read as”**

Structural platforms shall be required to provide access for various equipment. Tables shall be required for handling products. These platforms and tables shall be fabricated keeping stability and other functional as well as aesthetic requirements into consideration as approved by the Purchaser.

#### **Page No:94**

##### **1.1 DESIGN BASIS OF THE PLANT:**

The essential sections of a milk processing plant are:

Tanker Raw Milk Reception Dock (RMRD) - consisting of minimum 2 bays to receive two road milk tankers at a time and 2 more bays for doing CIP, raw milk silos to store Raw Chilled Milk, **Milk testing facilities** and milk pumping through milk chillers after straining.

Processing Hall –Pasteurizer, cream separator, homogenizer, cream storage, Powder Reconstitution unit **with Turbo-blender** and other related machinery.

**“ May be read as”**

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Tanker Raw Milk Reception Dock (RMRD) - consisting of minimum 2 bays to receive two road milk tankers at a time and 2 more bays for

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doing CIP, raw milk silos to store Raw Chilled Milk and milk pumping through milk chillers after straining.

Processing Hall –Pasteurizer, cream separator, homogenizer, cream storage, Powder Reconstitution unit with **High Shear Mixer** and other related machinery.

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PLANT CONFIGURATION CONSIDERED

LIQUID MILK PACKING AREA	HMST AREA	FULLY AUTOMATIC
	MILK FILLING AREA	FULLY AUTOMATIC TILL POUCH PACKING MACHINE. <b>AFTER MACHINE SEMI AUTOMATIC CONVEYOR SYSTEM</b>

**“ May be read as”**

LIQUID MILK PACKING AREA	HMST AREA	FULLY AUTOMATIC
	MILK FILLING AREA	FULLY AUTOMATIC TILL POUCH PACKING MACHINE.

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MILK RECONSTITUTION / **RECOMBINATION SECTION**

It would be used for reconstituting milk from Rinse / RO water and whole milk powder or skim milk powder continuously at a temperature of around 30-45 deg C using high shear **turbo** mixer.

**“ May be read as”**

**MILK RECONSTITUTION**

It would be used for reconstituting milk from Rinse / RO water and whole milk powder or skim milk powder continuously at a temperature of around 30-45 deg C using high shear mixer.

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1. Loading Headers:
  - ✓ 1 No. for mixing recirculation line/Inter transfer/rinse milk
2. Unloading Headers:
  - ✓ 1 No. for transfer to MPLs / RMST with suitable capacity pumps.
  - ✓ 1 No. RCM recirculation line 1 No. transfer to MPL/RMST with suitable capacity pump

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**“ May be read as”**

1. Loading Headers:
  - 1 No. for **RCM recirculation line with facility of addition of rinse milk.**
2. Unloading Headers:
  - 1 No. for **RCM Recirculation line.**
  - 1 No. for **Transfer to MPLs/RMST with suitable capacity pump**
3. **1 No. CIP Return header**

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The LMP plant shall be designed to run all the three pasteurizers simultaneously. The milk separator shall be self-cleaning type with auto flush **& auto standardizing unit**. Separator and homogenizer bypass arrangement & duplex pipe in pipe type filter (with auto changeover facility from HMI) is included in the scope. CIP of both pipe in pipe type duplex filters shall be done simultaneously in line with plant CIP with use of special type valve arrangement. **Auto standardizing unit shall be capable to standardize milk with cream dosing.** RCM and Cream addition is considered at the balance tank of pasteurizer and in RMST. **The functionality of cream dosing and RCM dosing at auto standardization is not necessary. Auto standardization unit shall be supplied for Fat standardization. This can be added to any of the processing line, mass flow meter shall be added to the line. Final standardizing with cream only shall be carried out in balance tank of pasteurizer and RMST. The pasteurized milk at 4 °C shall be stored in any processed milk outdoor silos (04×100KL)**

**“ May be read as”**

The LMP plant shall be designed to run all the three pasteurizers simultaneously. The milk separator shall be self-cleaning type with auto flush **Unit**. Separator and homogenizer bypass arrangement & duplex pipe in pipe type filter (with auto changeover facility from HMI) is included in the scope. CIP of both pipe in pipe type duplex filters shall be done simultaneously in line with plant CIP with use of special type valve arrangement. RCM and Cream addition is considered at the balance tank of pasteurizer and in RMST. Standardizing with cream only shall be carried out in balance tank of pasteurizer and RMST. The pasteurized milk at 4 °C shall be stored in any processed milk outdoor silos (04×100KL)

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Standalone system shall be considered. Redundancy at CPU required

**“ May be read as”**

**Standalone CPU without redundancy.  
PLC Rack power supply with redundancy, standard power supply for RIO panels.**

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**Standalone OS/SCADA configuration shall be provided.**

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Human Machine Interface (SCADA) PC shall have 24" color TFT - **LCD** display.

All the PC's other than SCADA PC's shall have 24" color TFT - **LCD** display.

**" May be read as"**

Human Machine Interface (SCADA) PC shall have 24" color TFT - **LED** display.

All the PC's other than SCADA PC's shall have 24" color TFT - **LED** display.

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All the third-party automation systems (other than main DCS/high end PLC system) shall have communication port suitable for the main automation system & all these systems shall be seamlessly connected to the main system. All field hardware signals should be connected through remote I/O stations. All the systems should communicate digitally to have better information exchange. **All MCC feeders shall be connected with the automation system through a communication bus.**

**" May be read as"**

All the third-party automation systems (other than main DCS/high end PLC system) shall have communication port suitable for the main automation system & all these systems shall be seamlessly connected to the main system. All field hardware signals should be connected through remote I/O stations. All the systems should communicate digitally to have better information exchange. **VFD in Process plant (LMP & Powder ) MCCs shall be intelligent type and communicate with central automation system through communication bus. VFD in third party package MCCs, Ancillary panels, Utility MCCs shall be Non - intelligent type.**

**Page No: 137**

4.1.05 Raw Milk Chiller (10 Deg.to 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

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Duty : This PHE shall be used to chilled raw milk with chilled water

Instruments :

1. Temp control valve for chilled water
2. Milk in/out Temp. Transmitter
3. Temp. Transmitter on Chilled water return line

**NOTE: All TT shall be without display. Local indication panel required for all Silos**

**“ May be read as”**

#### 4.1.05 Raw Milk Chiller (10 Deg.to 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 with chilled water

Instruments :

1. Temp control valve for chilled water
2. Milk in/out Temp. Transmitter
3. Temp. Transmitter on Chilled water return line

#### **Page No: 142**

Holding Tube & Hydro cyclone

Type : **Pipe Rack mounted and insulated and installed on the pipe rack.**

Holding time : 20 Sec.

Material : SS - 304

**“ May be read as”**

Holding Tube & Hydro cyclone

Type : **Tubular & Rack mounted without insulation**

Holding time : 20 Sec.

Material : SS - 304

#### **Page No: 144**

#### **4.2.04 Auto Standardization Unit - DELETED**

Capacity : Matching the separator capacity

Qty : as per BOQ

Instrumentation : Internal processing data computer along with Control unit and OP and all instruments and valves as per OEM

Material : AISI 316

Accuracy : +/- 0.02% (SD min)

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Type : Fat standardization  
Accessories : control panel with touch screen OP for graphical representation of standardization data

Note: Bidder shall ensure that no "un standardize" milk is transferred to PMST during start up, interruption and at the end of process. For that necessary diversion/software shall be considered in the scope of supply. Bidder to submit scheme for above arrangement

**"DELETED"**

**Page No: 150**

4.3.07(a) Cream Transfer pump to Butter section with VFD. (1 Working+1 Stand by)

**" May be read as"**

4.3.07(a) Cream Transfer pump to Butter section **Single Lobe Transfer pump** with VFD (1 Working+1 Stand by)

**Page No: 153**

4.5.03 Rinse Milk Storage Tanks  
Agitator : **side mounted** with gear box

**" May be read as"**

4.5.03 Rinse Milk Storage Tanks  
Agitator : **Top mounted** with gear box

**Page No: 182**

Condensate recovery tank, equal to one-hour operation of boiler at full capacity, shall be provided to collect the clean condensate from plant.

**" May be read as"**

Condensate recovery tank, equal to one-hour operation of boiler at full capacity, shall be provided to collect the clean condensate from plant. **Condensate shall be left at the outlet of condensate recovery tank and thereafter this line shall be extended to boiler feed water tank by Union.**

**Page No: 244**

Scope would consist of design, supply, installation, testing and commissioning of **Intelligent** Motor Control Centers with complete switchgears. **All motor feeders shall be provided with soft starter**

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**with intelligent motor protection relay (IMPR) and integrated with main control system through communication bus.** Incomer feeder, third party supplier like conveyor, packing machine, and motors, complete switch gear and electrical shall be non-intelligent type. The motor starter up to 10HP shall be DOL starter type and above shall have soft starter in **IMMC & MCC.**

**“ May be read as”**

Scope would consist of design, supply, installation, testing and commissioning of Motor Control Centers with complete switchgears. Incomer feeder, third party supplier like conveyor, packing machine, and motors, complete switch gear and electrical shall be non-intelligent type. The motor starter up to 10HP shall be DOL starter type and above shall have soft starter in MCC.

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ELECTRICAL DISTRIBUTION SYSTEM

**Purchaser shall provide electrical power at New MCC panels.** The scope of the Bidder starts from the laying of cable from the drying plant Feeder in the PCC to new MCC panels.

**“ May be read as”**

ELECTRICAL DISTRIBUTION SYSTEM

The scope of the Bidder starts from the laying of cable from the drying plant Feeder in the PCC to new MCC panels

**Page No: 245**

The scope would consist of design, supply, installation, testing and commissioning of Motor Control Centres with complete switchgears. **All motorized feeder shall be communication capable through field run bus.** Incomer feeder, all outgoing non-motorized feeder & all ancillary panels with complete switchgears & electrical shall be non- intelligent type.

**“ May be read as”**

The scope would consist of design, supply, installation, testing and commissioning of Motor Control Centres with complete switchgears. Incomer feeder, all outgoing non-motorized feeder & all ancillary panels with complete switchgears & electrical shall be non- intelligent type.

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6.1 MOTOR CONTROL CENTRE

Following MCCs are envisaged for the plant. The feeders in each MCC shall be as per the functional /design requirement:

6.1.1 MCC – I FOR EVAPORATION PLANT

6.1.2 MCC – II FOR DRYING PLANT

**“ May be read as”**

6.1 MOTOR CONTROL CENTRE

Following MCCs are envisaged for the plant. The feeders in each MCC shall be as per the functional /design requirement:

6.1.1 MCC – I FOR EVAPORATION PLANT

6.1.2 MCC – II FOR DRYING PLANT

**6.1.3 MCC – III RECEPTION, MILK PROCESSING & CREAM**

**6.1.4 MCC – IV RECONSTITUTION, CIP & RINSE**

**Page No: 247**

One no of 100 A TPN MCCB unit for welding point shall be provided in each MCC. **MCC shall be provided with 2 nos. of RTD sensors for temperature monitoring.**

**“ May be read as”**

One no of 100 A TPN MCCB unit for welding point shall be provided in each MCC.

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For Liquid milk plant:

10% spare feeders with switchgear shall be provided in each MCC/**IMCC** for rating upto 15HP. Spare feeders shall be provided with IMPR / Soft starters / VFDs as applicable. Apart from spare feeders, feeders for future expansion of LMP plant shall also be provided in **IMCC / MCC**.

**“ May be read as”**

For Liquid milk plant:

10% spare feeders with switchgear shall be provided in each MCC for rating upto 15HP. Spare feeders shall be provided with IMPR / Soft starters / VFDs as applicable. spare feeders, LMP plant shall be provided in MCC

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2.05	AUTO STANDARDIZATION UNIT -20 KLPH	2	NOS
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**“ May be read as”**

**“DELETED”**

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7.18	TUBULAR HEATER-1X <b>40</b> /1X30/ <b>1</b> X20 KLPH	3	NOS.
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**“ May be read as”**

7.18	TUBULAR HEATER-1X <b>30</b> /1X30/ <b>2</b> X20 KLPH	3	NOS.
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**Page No: 271**

<b>B</b>	<b>ELECTRICALS FOR DAIRY</b>		
9.08	<b>IMCCS</b>	1	NOS

**“ May be read as”**

<b>B</b>	<b>ELECTRICALS FOR DAIRY</b>		
9.08	<b>MCCS</b>	1	NOS

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10.01	Screw, Non-Lubricating Type Air Compressor With After Cooler & Moisture Separator (1 W + 1s)- 300 CFM	2	Sets
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**“ May be read as”**

10.01	Screw, Non-Lubricating Type Air Compressor With After Cooler & Moisture Separator (1 W + 1s)- 300 CFM	<b>1</b>	Sets
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**Page No: 272**

14.02	GI GALVANIZED STRUCTURE FOR PIPE BRIDGE FOR ROAD CROSS OVER'- <b>75 MT</b>	1.00	SET
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**“May be read as”**

14.02	GI GALVANIZED STRUCTURE FOR PIPE BRIDGE FOR ROAD CROSS OVER'	1.00	SET
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**Page No: 277**

<b>B</b>	<b>ELECTRICALS FOR POWDER PLANT</b>		
38.07	IMCCS ( WITH APFC & HARMONIC FILTERS)	1	NOS

**“ May be read as”**

<b>B</b>	<b>ELECTRICALS FOR POWDER PLANT</b>		
38.07	<b>MCCS ( WITH APFC &amp; HARMONIC FILTERS)</b>	1	NOS

**SIGNATURE OF THE TENDERER WITH SEAL**

**Page No: 280**

UPS	EMERSON-LIEBERT / HI-REL / APC / SUVIK / NUMERIC
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**"May be read as"**

UPS	EMERSON-LIEBERT / HI-REL / APC / SUVIK / NUMERIC/ <b>REILLO POWER</b>
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**Page No:281**

Approved make for Powder Plant Equipment:

AUTOMATION SYSTEM	SIEMENS / ROCKWELL
AIR FILTER	FREUDENBERG / SPECTRACO
CABLES – LT CABLES, CONTROL CABLES	GLOSTER/ NICCO/ FINOLEX / UNIVERSAL / CCI /RPG HAVELLS
MAIN STEAM AIR HEATER	EBT , C&H, BRUNNER, ETC.

**"May be read as"**

AUTOMATION SYSTEM	SIEMENS / ROCKWELL/ <b>SCHNEIDER</b>
AIR FILTER	FREUDENBERG / SPECTRACO/ <b>SPECTRUM</b>
CABLES – LT CABLES, CONTROL CABLES	GLOSTER/ NICCO/ FINOLEX / UNIVERSAL / CCI /RPG HAVELLS/ <b>POLYCAB/RR KABEL/SBEE</b>
MAIN STEAM AIR HEATER	EBT , C&H, BRUNNER, ETC, <b>VIRTEX</b>

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FREQUENCY CONVERTER	ALLEN BRADLEY/ SIEMENS/ ABB / SCHNEIDER
FLOAT TYPE LEVEL SWITCH FOR FIRE WATER TANK	PUNE TECTROL/EQUIVALENT
INSTRUMENT CABLE	POLYCAB / THERMOPAD /ICON
RTD (WITH HEAD MOUNTED TX)	E&H / WIKA / GIC/ALTOP
SS TUBES / PIPES	APEX / BHANDARI FOILES & TUBES/ PRAKASH QUALITY

**"May be read as"**

FREQUENCY CONVERTER	ALLEN BRADLEY/ SIEMENS/ ABB / SCHNEIDER/ <b>DANFOSS</b>
FLOAT TYPE LEVEL SWITCH	PUNE TECTROL/ EQUIVALENT/

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FOR FIRE WATER TANK	<b>E&amp;H / ANDERSON NEGELLE/ PUNETECHTROL</b>
INSTRUMENT CABLE	<b>POLYCAB / THERMOPAD /ICON/RR KABEL/SBEE</b>
RTD (WITH HEAD MOUNTED TX)	<b>E&amp;H / WIKA / GIC/ALTOP/ RADIX/ ANDERSON NEGELE/BAUMER.</b>
SS TUBES / PIPES	<b>APEX / BHANDARI FOILES &amp; TUBES/ PRAKASH QUALITY/RENSA</b>

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TEMPERATURE TRANSMITTER FOR RTD	<b>E &amp; H / MASIBUS / ANDERSON- NEGELE</b>
STEAM TRAPS / STRAINER	<b>SPIRAX</b>
TVR	<b>MAZDA</b>

**“May be read as”**

TEMPERATURE TRANSMITTER FOR RTD	<b>E &amp; H / MASIBUS / ANDERSON- NEGELE/BAUMER/RADIX</b>
STEAM TRAPS / STRAINER	<b>SPIRAX/FORBES MARSHALL</b>
TVR	<b>MAZDA /EQUVALENT</b>

**PART – II COMMERCIAL BID**

**Commercial Bid - Break up**

**Page No:7**

S.No.	Item Description	Qty	Unit	Basic Price	P & F	Transport Charges	Transit Insurance	GST/ IGST	Total Price
<b>2.05</b>	<b>Auto Standardization Unit -20 KLPH</b>	<b>2</b>	<b>NOS</b>						

**“ May be read as”**

**“DELETED”**

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**Page No:13,16,18,30**

S.No.	Item Description	Qty	Unit	Basic Price	P & F	Transport Charges	Transit Insurance	GST/IGST	Total Price
7.18	Tubular Heater- 1X <b>40</b> /1X30/1X20 KLPH	3	NOS.						
9.08	<b>IMCCS</b>	1	NOS						
10.01	Screw, Non- Lubricating Type Air Compressor With After Cooler & Moisture Separator (1 W + 1s)- 300 CFM	<b>2</b>	Sets						
14.02	GI Galvanized Structure for Pipe Bridge for Road cross over'- <b>75 MT</b>	1.00	SET						
38.07	<b>IMCCS</b> (with APFC & Harmonic Filters)	1	NOS						

**"May be read as"**

S.No.	Item Description	Qty	Unit	Basic Price	P & F	Transport Charges	Transit Insurance	GST/IGST	Total Price
7.18	Tubular Heater- 1X <b>30</b> /1X30/ <b>2</b> X20 KLPH	3	NOS.						
9.08	<b>MCCS</b>	1	NOS						
10.01	Screw, Non- Lubricating Type Air Compressor With After Cooler & Moisture Separator (1 W + 1s)- 300 CFM	<b>1</b>	Sets						
14.02	GI Galvanized Structure for Pipe Bridge for Road cross over	1.00	SET						
38.07	<b>MCCS</b> (with APFC & Harmonic Filters)	1	NOS						

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