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
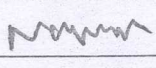

TECHNICAL PROCUREMENT SPECIFICATION

For

TELESCOPIC BELT CONVEYOR LOADER SYSTEM
(TBCLS)

At



UDYOGAMANDAL COMPLEX,
FACT, KOCHI, INDIA

0	26/11/2021	For Enquiry			
Rev No	Date	Description	Prepared	Checked	Approved
Udyogamandal Complex: Technical Services Department					

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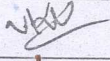
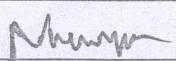

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1.0 GENERAL

- i. The Fertilisers and Chemicals Travancore Limited (herein after referred to as "FACT") is a large Central Public Sector Undertaking in Kerala, engaged in manufacture and sale of Fertilisers, Chemicals, Petrochemicals, Consultancy Services, Engineering, Fabrication etc. with its major manufacturing units located at Udyogamandal and Ambalamedu in Kochi, Kerala. The units are FACT-UC at Udyogamandal and FACT-CD at Ambalamedu.
- ii. FACT - Udyogamandal Complex (FACT-UC) as a part of mechanisation proposes to procure & install a Telescopic Belt Conveyor Loader System (TBCLS) at its Petrochemical Plant area, for loading of Caprolactam bags made laminated with HDPE woven fabric with dimension 860mm (L) x530mm (B) x180mm (H) & weight 25Kg to the trucks of 40 feet length (Maximum).
- iii. This Technical Procurement Specification (TPS) covers the design, manufacture, inspection, testing, supply, installation & commissioning, training, preparation of documents required, Comprehensive Annual Maintenance Contract (CAMC) services for the supplied TBCLS. The purpose of this document is to describe the minimum requirements of UC.
- iv. The entire work shall be carried out in turnkey basis, adhering to all relevant standards, regulations and the best engineering practices, utilising best quality materials and best quality workmanship. The absence of specification on any aspect shall imply that the best engineering practices shall prevail.
- v. It may please be noted that compliance to this document alone does not absolve the Bidder from supplying a system/equipment that does not meet all the specified operating and service requirements.
- vi. The Bidder shall inform the Purchaser in the event of any conflict between data given in this specification and the requirements with respect to statutes/standards/regulations. The Purchaser will provide his resolution in such cases and the Bidder shall follow the same without any impact on cost or time schedule.
- vii. Bidder is advised to visit the site and collect / obtain all relevant details if required, prior to submitting the Bid and the bids which qualify Pre-Qualification Criteria (PQC), will only be considered for Technical Evaluation & further processing.
- viii. There will be a Pre Bid meeting conducted by the Purchaser for clarifying the queries from the Bidder before submitting the Bid.
- ix. For Price Evaluation the total cost including Supply (complete system with all accessories, documentation), Service part (installation & commissioning, warranty, training & CAMC) of TBCLS will be considered.

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2.0 SCOPE OF WORK

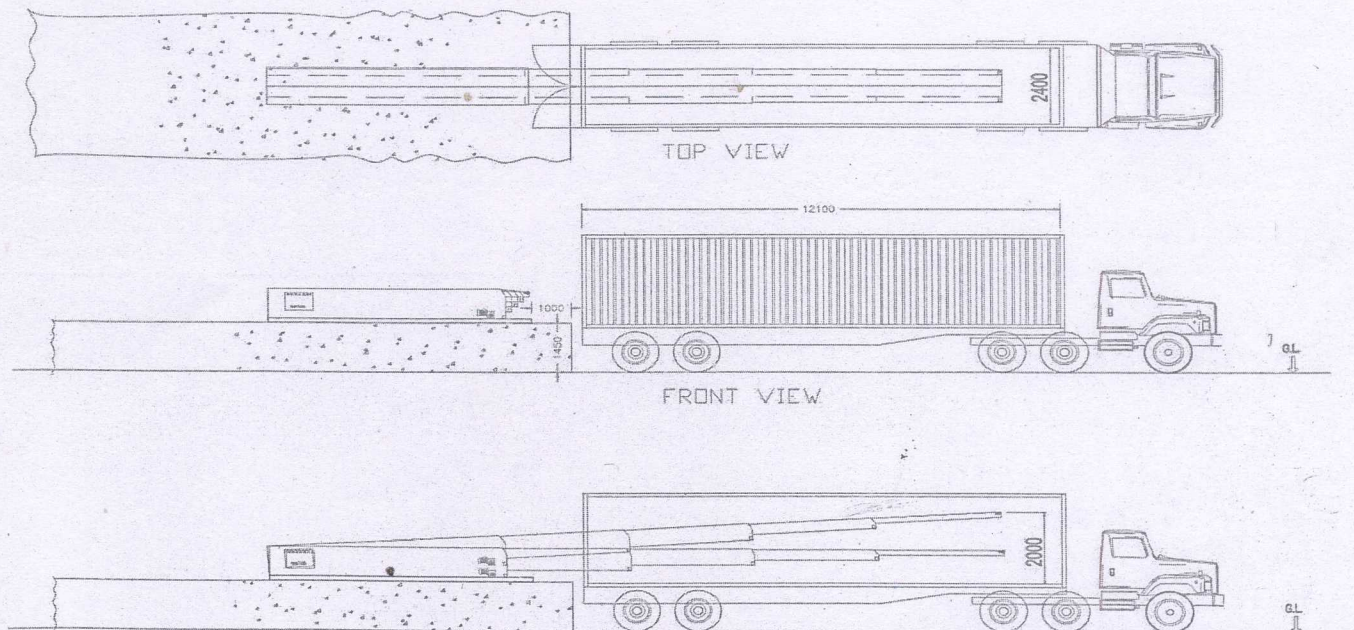
Scope of work shall include but not limited to the following:

- i. Design, Manufacture, Supply, Installation & Commissioning of TBCLS suitable for loading of Caprolactam bags to the trucks.
- ii. Performance testing of the TBCLS.
- iii. The successful Bidders shall arrange boarding and lodging & transportation arrangement of their manpower for installation & commissioning.
- iv. Transportation of components from Bidders site, unloading of the TBCLS at FACT-UC site.
- v. All labour, supervision, materials, consumables, tools and tackles, equipments, machinery etc. for the job shall be arranged by the Bidder.
- vi. Bidder shall adhere to all safety measures for carrying out the unloading, Installation & commissioning job.
- vii. Bidder's personnel engaged for the site work shall compulsorily have ESI/Health insurance registration. In addition, Bidder has to comply with FACT's standard rules and practices.


3.0 PERIOD OF COMPLETION

- 3.1 Successful Bidder shall complete the supply of TBCLS within **eight weeks** from date of LOI/ PO.
- 3.2 Installation and Commissioning of TBCLS shall be completed within **one week**.

4.0 GENERAL ARRANGEMENT DRAWING



All Dimensions are in mm

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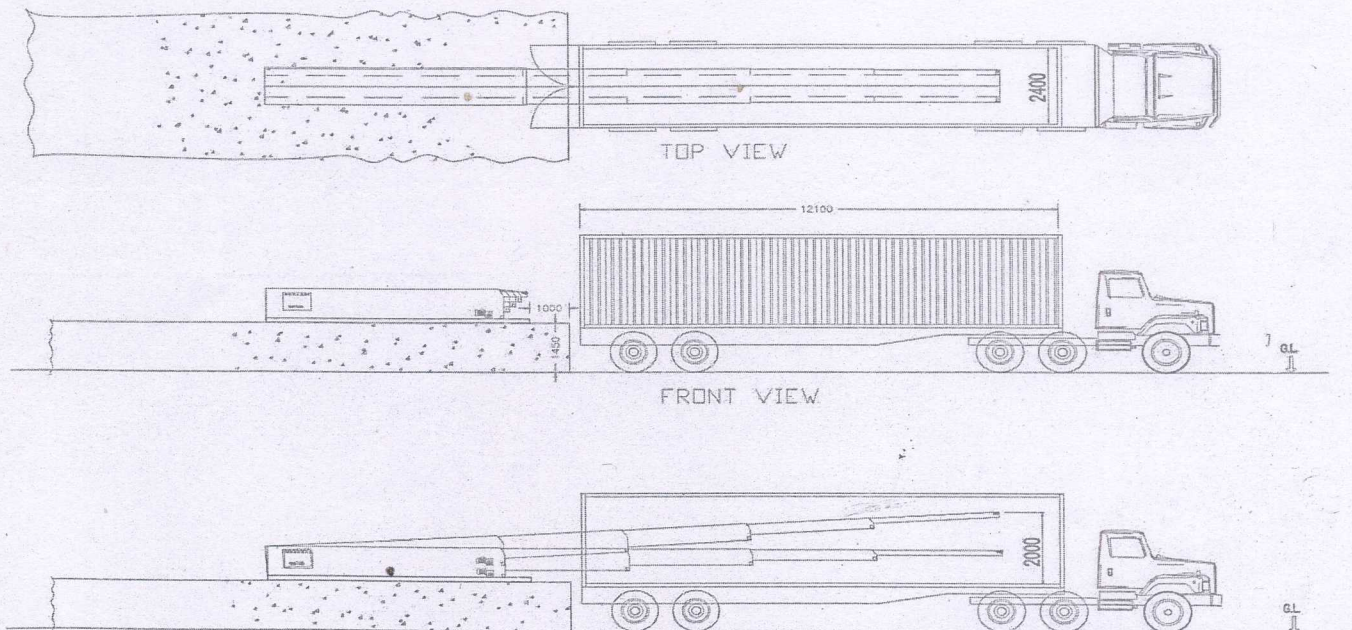
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
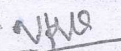
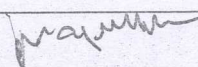
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5.0 DATA SHEET

Sl.No	PARTICULARS		SPECIFICATION
1	Item		Telescopic Belt Conveyor Loader System (TBCLS)
2	Purpose		For loading of 25kg bags to the trucks up to 40 feet length, 8 feet width, 9.6 feet height.
3	Type		Collapsible boom type
4	Length of conveyor		Fixed Length-Bidder to specify (6500 mm Maximum) Telescopic – 12000mm (Minimum) Total –Bidder to specify
5	Lifting mechanism		Hydraulic power packs
6	Telescopic movement		Motorized
7	Angle of inclination		Bidder to specify
8	Highest delivery point		2000mm (min)
9	Lowest delivery point		Bidder to specify
10	Feed height (Bag Loading)		1100mm (Max)
11	Belt Type		Anti Slip PVC belt (Bidder to specify)
12	Belt width		650mm (Min)
13	Belt Load bearing capacity		50 Kgs/m
14	Belt speed range		15-35 meter/minute (approx.)
15	Bag loading rate		900-1000 bags per hour(approx.)
16	Motor	Supply	415V ± 10%, 3φ , 50Hz ± 5%,AC
		Type	TEFC squirrel cage induction , B class insulation
		Protection	IP 55
17	Control Panel		Fixed front head& remote operating panel with emergency stop
18	Drives		With VFD
19	Digital counter		Electronic Type with 6 digits display, for counting the bags moving on conveyor. Counter type-batch count resettable and total count non resettable.
20	Anti-collision system		Safety sensors at the tail end for safe operation
21	LED light		For lighting at the loading area inside the truck
22	Buzzer		Buzzer for TBCLS motion.
23	Main body of conveyor		MS (as per latest Indian Standard)
24	Mounting		On MS Chassis mounted on heavy duty Caster wheel (swivel) for movement
25	Painting		Two coats of Epoxy/red oxide/zinc chromate primer & high gloss finished paints or Powder coated.

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6.0 LIST OF ACCEPTABLE MAKES (INDIGENOUS ITEMS)



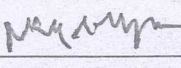

Sl.No	DESCRIPTION	ACCEPTABLE MAKE
1	LV Switch gears & Electricals	L & T/ Siemens/ Alsthom/ Schneider/ Bussman
2	Motor	Kirloskar/ Siemens/ BhartBijlee/ ABB /Bonfiglioli
3	Variable Speed Drives	Gujarat Hi Rel Controls Pvt Ltd/Kirloskar Electric Co Ltd/ L & T/ Tata Liebert Ltd/ ABB India Ltd/ Siemens Ltd, BHEL/ Amtech Electronics India Ltd/Vacon Drives & Controls PvtLtd/ Allen Bradley / Schneider/ Mitshubishi
4	Conveyor Belt	Forbo/Ammeraal / Chiorino / Derco/ Habasit/ Kyungin/ OEM
5	Steel	SAIL/ JSW Steel/ Tata Steel/ Essar Steel/ Jindal steel/ Vizag steel/ APL Apollo

Prior approval shall be obtained from FACT for acceptance of make for non-indigenous item supply.

Bidder shall submit the Bill of Materials (BOM) with Make, Model, and Quantity for the offered TBCLS for technical evaluation.

7.0 INSPECTION AND TESTING

- 7.1 The Bidder shall submit Quality Assurance Plan (QAP) for the manufacture, Testing & inspection.
- 7.2 The TBCLS shall function to such capacities and /or outputs as defined in the specifications and shall meet the specifications prescribed in the TPS. The Bidder shall carry out all the relevant test, adjustments and inspection before dispatch of the TBCLS.
- 7.3 The Bidder shall inform FACT of their state of readiness to carry out the test prior to dispatch to enable FACT to plan & organize for the Inspection & Testing.
- 7.4 Pre-Dispatch Inspection (PDI) is required and shall be done jointly by Bidder and Purchaser's representative at Bidder's facility / factory for the conveyor system complete with all accessories as specified in this specification. Facility and necessary arrangements for successful completion of PDI covering operational & performance aspects of the offered system shall be in the scope of the Bidder. The Bidder shall inform the Purchaser two weeks prior to the commencement of inspection after completing all internal inspection of the complete system as specified in the TPS. The Bidder shall submit the procedure for PDI and results of internal inspections as per QAP for Purchaser review well in advance before giving intimation for conducting PDI. The accommodation and conveyance of the Purchaser's representative during the period of inspection shall be under FACT scope.

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The PDI shall not be limited to the following:

- i. Visual, dimensional and mechanical checking.
- ii. Checking alignment, free movement, travel speed, interlocks and other controls of TBCLS.
- iii. Performance, Functionality checking, Monitoring and Loading Analysis of the system.
- iv. Any other checking as per Bidder's Quality Assurance Plan.
- v. Any other checks/test required for verification of the item to meet purchase order specification

7.5 Bidder shall test and confirm the functional integrity of the system prior to dispatch. The Purchaser shall submit the Test Certificate for review and verification. No material or equipment shall be dispatched until all required tests are successfully completed and the test certificates duly verified by the Purchaser and issue of Inspection Release Certificate (IRC) by the FACT Representative.


7.6 The Bidder's responsibility shall not in any way be reduced or discharged because FACT or FACT's representative(s) or Inspector(s) shall have examined or commented on the Bidder's drawings or specifications or shall have witnessed the tests or shall have stamped or approved or certified any Material(s).

7.7 Site Acceptance Test (SAT)

The Bidder and the Purchaser shall do site Acceptance Test, jointly, after system installation and commissioning. When the TBCLS and its associated equipment's are completely assembled, they shall be subject to inspection by the Purchaser's representatives. The testing shall be carried out to ensure functional integrity of the TBCLS. Bidder must initiate the remedial action in case unsatisfactory operation of any equipment or item is observed during this testing with intimation to Engineer-in-Charge. A detailed report shall be prepared on the tests and the final takeover of the system shall be based on the conformity to the specification, functions specified. All equipment shall be inspected thoroughly by Bidder after its receipt at site. The functionality of the TBCLS shall be monitored for a period of 2 days. The Purchaser will take over the system from the Bidder after successful completion of the Site acceptance test.

8.0 INSTALLATION AND COMMISSIONING

- i. Assembling of the conveyor package as applicable.
- ii. Installation of TBCLS at the respective locations in the site, testing and commissioning.
- iii. Providing power and signal connections.
- iv. Loop checking, Testing and commissioning of the complete TBCLS.

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9.0 TRAINING

9.1 The Bidder shall provide satisfactory training to maximum 4 operating/maintenance personnel of FACT-UC at site after installation and commissioning.

9.2 The training shall be provided as a continuation of commissioning of TBCLS.

Documentation (Hard copy - one set and Soft copy in USB Pen drive - one no) of operation and maintenance manual (in English) including Bill Of Materials (BOM), manuals for mechanical/electrical function, assembly drawings, hardware or software program, troubleshooting chart and preventive maintenance schedule of the machine parts etc shall be supplied.

10.0 DOCUMENTS AND DRAWINGS

10.1 Bidder should submit one set (in hardcopy & softcopy) of detailed literature/Catalogue carrying all technical details, specification & ordering information of offered models along with the technical bid. And also one set of hardcopy & softcopy of detailed manuals to be supplied along with the supply of TBCLS.

10.2 All documents and drawings submitted shall be legible format and shall be as per good engineering practices. All dimensions shall be in mm

10.3 Following documents shall be furnished along with the offer.

- i. GA Drawing, BOM with quantity, make, model and detailed specification of all components and sub-assemblies.
- ii. System configuration, specification and hook up schematic drawings.



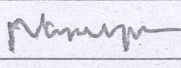

10.4 Following documents shall be furnished on placement of PO (minimum one copy).

- i. Installation, Operation & Maintenance manual, BOM, troubleshooting guidelines.
- ii. Original test certificates & guarantee certificate.
- iii. Wiring and Interconnection drawings.

11.0 WARRANTY

11.1 Bidder shall provide complete warranty of the system for twelve (12) months from date of acceptance or eighteen (18) months from the date of dispatch whichever is earlier.



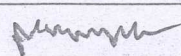

11.2 Bidder shall provide total maintenance of the system during warranty period including replacement of equipment / component, if any required, entirely at his cost. In case of a malfunction during the warranty period, Bidder shall depute his service engineer to the site and rectify the defects within 24 hrs of the receipt of information from purchaser by telephone call or email. The system shall be made ready within 48 hrs of receipt of the information.

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12.0 COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT (CAMC)

- 12.1 The Bidder shall quote for CAMC of the TBCL system for a period of **two** years from the date of expiry of the warranty period. The CAMC shall be comprehensive, that is inclusive of all spare parts and services.
- 12.2 The CAMC comprises of the following minimum services but not limited as outlined herein
- i. Preventive Maintenance Service: This service is to be provided four times in a year on whole system to ensure safe and trouble free operation.
 - ii. Break down maintenance service: This service shall be provided on emergency maintenance request. There shall be no ceiling for this service. In case of break down, Bidder shall depute engineers to restore the system at the earliest. The system shall be made online within 48 hrs after any kind of breakdown.
- 12.3 The personal deployed at the site shall have thorough knowledge of the system.
- 12.4 The Bidder is liable to keep track of the modifications done at any point of time and it shall be made known to FACT with hardcopy and softcopy. In case of system breakdown, Bidder shall depute engineers to restore the system at the earliest, within 24 hours
- 12.5 Payment shall be on quarterly basis and 25% of the annual maintenance charges shall be paid after each quarter, on successful completion of the CAMC visit during that quarter and receipt of invoice for the same and on the basis of service report certified by the engineer-in-charge.
- 12.6 Separate Work Order will be released for the CAMC on yearly basis.
- 12.7 Bidder shall remit 10% of the total Work Order (WO) value for CAMC as an interest-free Security Deposit (SD), within 15 days of receipt of work order for CAMC. The mode of Security deposit will be detailed in the Tender document. The SD will be retained till the completion of the WO period and will be released only after successful completion of the work and on receipt of written request from the Bidder.
- 12.8 The Purchaser reserves the right to cancel the CAMC at any time if the service rendered by the vendor is not prompt or satisfactory or maintenance/ repairs carried out is not satisfactory.
- 12.9 The Purchaser also reserves the right to carry out the maintenance work on their own or through other contractors at the risk and cost of the vendor, during the period of the CAMC (i.e., till the date of end of CAMC or cancellation date), if the performance of the vendor is not satisfactory.

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13.0 COMPLIANCE STATEMENT.

ENQUIRY No..... Dated

We state that our Bid No: is in full compliance with the documents issued against the Enquiry No:..... except for the following deviations listed below:-

LIST OF DEVIATIONS / EXEMPTIONS

No.	Description	Reasons for Deviation

Note: Non-compliance shall be mentioned referring to clause number concerned in the enquiry/ TPS/ Datasheet.

We have read, understood and accepted the terms and conditions of the enquiry covered in Technical Procurement Specifications, Terms and Conditions for Purchase and Terms and Conditions for Installation and Commissioning attached with the Tender documents, except for the above.

Date:

Name of the Bidder

Seal & Signature

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