

REGULATED MARKET COMMITTEE

DIGAPAHANDI

TENDER NOTICE FOR

SUPPLY, ERECTION, TESTING & COMMISSIONING OF REFRIGERATION SYSTEM WITH COLD CHAMBERS, MULTISOURCE ENERGY INTEGRATED WITH GRID CONNECTED SOLAR AND ASSIST IN OPERATION FOR 5 YEARS BY MANAGING COLD STORAGE BY IMPLEMENTING AUTOMATION AND ARTIFICIAL INTELLIGENCE AT DIGAPAHANDI MARKET YARD, GANJAM, ODISHA.

Estimate cost: INR 51,57,406 / -



OFFICE OF THE DIGAPAHANDI REGULATED MARKET COMMITTEE,
AT: COTTON MARKET YARD, P.O: DIGAPAHANDI, DIST: GANJAM,
PIN : 761012. ODISHA, E-MAIL: rmcdiga@gmail.com

NOTICE NO: 325 /RMC

DATE: 26 /12/2023

Work Description: DESIGN AND DEVELOP AN ENERGY EFFICIENT POST HARVEST MANAGEMENT OF AGRICULTURAL PRODUCTS/ BY-PRODUCTS AT COTTON MARKET, DIGAPAHANDI FOR REGULATED MARKET COMMITTEE (RMC), DIGAPAHANDI, DISTRICT OF GANJAM, ODISHA

Earnest Money Deposit (EMD): 1% of the tender value EMD shall be deposited by the bidder with the bidding documents. EMD will be exempted for companies registered under MSMEs in National Small-Scale Industry (NSIC) or Odisha Small Scale Industry (OSIC) in the State of Odisha.

Tender Fee (Inclusive of GST) (Rs.) : 10,000 INR. A non-refundable tender fee in the form of Demand Draft drawn in favor of "REGULATED MARKETING COMMITTEE, DIGAPAHANDI" payable at Berhampur.

Performance Bank Guarantees: Performance Bank Guarantee bidder will be 5% of the value normally prescribed for 1 year after commissioning.

Site visit (If any): Bidder may visit the site with prior intimation to Secretary before bidding.

Last date and time of receipt of Bids : 12 / 01 / 2024, up to 17:00 Hours

Date & Time of opening technical bids & EMD : 17 / 01 / 2024 at 16:00 Hours in the office of Sub-Collector, Berhampur in presence of bidders attended.

Applicant should submit their proposal in a sealed envelope clearly indicating "Proposal for installation of 30 MT Solar Cold Room under RMC, Digapahandi, Dist-Ganjam." Through Speed post/Regd. Post only on the address given below.

Secretary,
REGULATED MARKETING COMMITTEE
Cotton Market Yard, At / PO :Digapahandi,
Dist. : Ganjam, (Odisha) PIN: 761012
Tel : +919090508808
Email: rmcdiga@gmail.com



A. Qualification Criteria for Bidders:

- The scope of work for the engineering and construction will be submitted with its time schedule to finish the project and also a write up for approaching the design and project implementation process.
- The bidder should have average annual turnover of Rs. 5 Crores in any of the last 5 financial years from (FY 18-19, FY 19-20, FY 20-21, FY 21-22 & FY 22-23). CA Audited balance sheet and profit & loss account statements to be submitted.
- The prospective Bidder(s) should be a registered Sole Proprietor Firm / Partnership Firm/ Company and should possess all Statutory Compliance. Bidder must submit the copy of all these Registration certificates like Valid PAN, ESI registration, EPF registration, GSTN Registration etc.
- OEM Registered in India of PUF / cooling machines / electrical / PV System / Electronics or their sole authorized distributor / channel partner or PV System Integrators are eligible to bid. Authorization letter in the prescribed format from Original Equipment Manufacturer (OEM) in favor of authorized distributor / channel partner to bid / conclude the order against this tender, must be provided with technical bid. PV System integrators shall also be required to submit the MAF from OEM.
- Bidder should have experience of successful erection, testing and commissioning of solar cold storage project in single contract during last 3 years as on date of opening of bid. Copy of these Purchase orders along with completion certificates must be attached with technical bid.
- The bidder should have HT license of any state, however after getting awarded the bidder should have to submit the Odisha HT license.
- Bidder should not be blacklisted by any Govt. Organization / Utility. Bidder to give the self-certification for it.
- Joint Ventures (JV) are not allowed.
- The RMC shall not be responsible for any delay in postal services.
- It is responsibility of manufacturer /EPC /Construction Companyfor ensuring timely delivery the design and project.
- The contactor will maintain an office to closely coordinate and work with RMC to maintain the solar cold storage and assist in operational. Automation system and mobile app will be developed by the EPC / construction company after T&C.
- Registered startup under Govt of Indian MSME will be a better preference.
- The bid should contain two parts one forTechnical Bid and second for Financial Bid as provided.



B. Reverse Auctions

RMC reserves the right to conduct the reverse auction for the project being asked for in the tender and reserves the rights with RMC. The terms and conditions for such reverse auction events shall be as per the tender. The bidders along with the tender document shall mandatorily submit a duly signed copy of the Acceptance Form attached as Annexure VI as a token of acceptance for the same.

The bidding will be for 30 MT solar GI cold storage for Digapahandi nearby city of Berhampur.

C. Mandatory documents required along with the Bid

- EMD of requisite value and validity
- Tender Fee
- Requisite Documents for compliance to Qualification Criteria
- Drawing, Type Test details OEM letter for cold storage, solar system, electrical automation and other automation products.
- Detail design for cooling and solar system integration
- Bidder will follow the design and plan of the RMC
- Solar generation simulation design and detail
- Duly signed and stamped tender document.
- Proper authorization letters from OEM
- Power of Attorney to sign the tender on the behalf of bidder
- A certified copy should be submitted by the bidder regarding not blacklisted by any govt. offices
- Declaration for 5 years assistance and system guarantee signed by directors.

General Information	30MT Solar Cold Storage for Multi Product (1 Chambers each)
Base Structure Details	The solar cold storage will have solar system on rooftop with cold storage rooms inside. The structure should sustain maximum wind speed of the cyclonic zone, 220km/h in costal zone too.
Ambient temp (in °C)	35°C, Storage temperature range: 5 °C to 35 °C
Product Stored	Flowers / Fruits / Vegetables etc * details will vary with more options, Product incoming temperature @ 20 °C - 35 °C
Door opening /day	Should be 4 times max , 10 minutes of each (30 minutes max / day)
Product incoming rate	15-45%, Working Hours & Number of persons 20 min Max / two persons
Cold Storage (30 MT staging cold room)	
Dimensions (L x W x H)	Customized with (27.5' x 17' x 10')
Temp (in °C)	Storage temperature range 2 °C to 8 °C
Chamber	1 Nos
Wall & ceiling insulation	100 mm Polyurethane Foam (PUF) + PPGI Cladding with density of 40+/-2 kg/m³ Make: Blue star/ Rinac / Kingspan Jindal / lloyd insulation only
Door type	6.5 feet height x 3.5 feet width. 100 mm PUF of 40+/-2 kg/m ³ , 0.5mm PPGI sheets on both sides , Safety inside door lock



Floor insulation	100 mm Polyurethane Foam with density of 40+/-2 kg/m ³ + GI / Tiles
Door curtain	PVC curtain before the door
Lights	3/4 Nos of internal LED Lights
Refrigeration System	<ul style="list-style-type: none"> • 30k BTU or above with 2 x 100% efficiency calculation of refrigeration system with calculative energy efficiency alternative for operational failure condition for individual rooms • Assistance locally available within 250km of installation for long term operational assistance. Easy to repair after installation. • Multiple units of multiple temps or different size with respect to National Horticulture Board Equivalent , R22 / R404A / Eco friendly gases, • The temperature controller will be digital displayed, simple operation and easy to handle by local farmers / personal. Compressor controller with separate set points. compressor cut off and temperature controls with respect to set temperature, • Put down time (5Hrs). Additional humidifier if necessary <p>Make: Blue star/ Daikin / Rinac/ Emerson only</p>
Ante Room	
Dimensions (L x W xH)	27.5 / less' x 7' x 10', modification will be approved as per site with clients approval. Anteroom may be used as a cooling room incase of need.
Wall & ceiling insulation	100 mm Polyurethane Foam (PUF) + PPGI Cladding with density of 40+/-2 kg/m ³ Make: Blue star/ Rinac / Kingspan Jindal / lloyd insulation only
Door type	6.5 feet height x 3.5 feet width. 100 mm PUF of 40+/-2 kg/m ³ , 0.5mm PPGI sheets on both sides , Safety inside door lock
Floor insulation	100 mm Polyurethane Foam with density of 40+/-2 kg/m ³ + GI / Tiles
Door curtain&Lights	PVC curtain before the door&1 Nos of internal LED Lights

Civil & Solar Structure	<p>Incase there will be any support for rooftop structure needed then the bidder will submit that with tender documents. The bidder will submit and structure analysis report along with the offer for building with tender documents. The frames and leg assemble of the mounting structure is made of MS hot dip galvanized of steel sections Tubes. Galvanizing shall be checked and tested in accordance with IS: 2633. The structure is designed in such a way that it will occupy minimum space without sacrificing the output from SPV panels at the same time it will withstand severe wind speed up to maximum 220 kmph. The report will be submitted along with the tender. The solar arrangement drawings of all individual rooftops shall be submitted with the tender for all individual builds.</p> <p>Raw Material: Tata Steel / JSW Steel / SAIL / VISA Steel / RINL / Essar Steel</p>
Electrical System	<ul style="list-style-type: none"> • Submit the design and stability calculation of solar system for the CS along with energy efficiency details. Solar System should be designed to achieve the cooling of average 37.2 million KJoule / month requirement. Solar system may be DC to DC for better efficiency. Bidder should consider a multi energy source of battery system IEC 60086 or similar ICEDGIEC. 88528-11 standard at least beyond 10 hours of energy backup. • 100% operational design with avoiding all possible risk of shutdown during any day of the year. • Panel level monitoring controlling incase of power optimizer system. • Take all possible Govt approvals for the solar cold storages system including Odisha State HT license . • Provide logical control incase grid failure in stormy days.



	<ul style="list-style-type: none"> • Indian standard approved (MNRE approved) on grid solar PV with DISCOM approvals. • All possible options for power supply at any point of time for cooling system. • Consistence Energy Supply arrangements from multiple sources <p>Makes: Waaree / Vikram / Adani / Renewsys/ Saatvik / Emmvee Inverter Makes: Havells / Waaree/ Solaredge / Delta / GoodWe /ABB / TMEIC/ Fronius / Huawei</p> <p>Any electrical system :Schneider / ABB / Eaton / Hager / Cable :Polycab / Havells</p>
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Space Management	The cold storage should have a space management installation to accommodate maximum possible commodity and should not violate the cooling conditions.
Connecting farmers with market & Operation Management	<p>"Implement of automation & Artificial Intelligence for stored food details quantity, quality and details of information for selling and space management. Connecting farmers and also collecting future harvesting data in application. Mobile App to connect the farmers directly with the market and to access information of food commodity in solar cold storage. Farmer's harvest (food) will be stored inside the cold storage and will be displayed online in this app, which can be access by multiple users like traders / food processing units/ exporters etc.</p> <p>Links to the markets in state and national level to give the information about the capacity utilization and idealness. Link with district state level admin for better communication With internal remote monitoring the temperature and other factors will be monitored.</p>

D. TERMS OF PAYMENT:

Payments will be released in the following manner:

- 60% (Seventy five Percent) of the contract value against delivery of the materials at site in good condition.
- 35% (Twenty Percent) of the contract value on satisfactory completion of the works.
- 5% (Five Percent) of the contract value as PBG shall be retained as Security Deposit and shall be released after 12 months from the date of successful commissioning of the work. .
- Statutory Income Tax, GST etc. at rates applicable shall be made from the bills

E. COMPLETION PERIOD:

The entire work is to be completed within a period of 90 days, failing which, penalty @ 1% of the contract value will be charged for delay in completion of the works of every fortnight or part thereof from the stipulated date of completion of works, which would be subject to force-majeure. The starting date of the works will be considered from the date of execution of the agreement after issue of work order to the Contractor by the RMC, Digapahandi.



F. GUARANTEE:

The Contractor will provide guarantee on the materials supplied and the workmanship for the works executed for a period of 60 months from the date of successful commissioning of the plant with successful operation.

G. RESPONSIBILITIES AT WORK SITE:

The Contractor has to comply with all statutory requirements of the Central/ State Govts. with respect to the workmen/labourers to be engaged for the entire works, including their safety and make its own arrangements for providing them with the necessary facilities and security at its own responsibility and cost during execution of the works.

H. DOCUMENTS TO BE FURNISHED:

Details of previous works of similar nature executed (on letter-head of the firm, duly signed), photo copies of Certificates of Registration, Up-to-date GST, Income Tax Clearance are to be furnished.



Sub-Collector, Berhampur-cum-
Chairman, R.M.C., Digapahandi



Commercial Bidding Doc:

SL NO	For 30 MT Solar Cold Storage	In INR
1	Site development	
2	Prefabricated Shed / Civil Structure	
3	Cold Room Chambers + Space Management	
5	Solar Package +Surge Protection, Electrification, Stabilizers Battery / Gen Set	
6	Thermal Energy Storage	
7	Govt Approvals' & T&C	
8	Automation and operation management assistance connecting& managing Farmer's	
	Insurance	
	GST	
	Operational EXP for 5 Years	
	Estimated Project Cost	
	Rate quoted in _____% Less or excess (strikeout the option in between)	_____ INR

This is to confirm that in case of award of the contract to us, we are agreeable to execute the works as per the Specifications / Terms & Conditions in this "SUPPLY, ERECTION, TESTING & COMMISSIONING OF REFRIGERATION SYSTEM WITH COLD CHAMBERS, MULTISOURCE ENERGY INTEGRATED WITH SOLAR AND ASSIST IN OPERATION FOR 5 YEARS BY MANAGING COLD STORAGE BY IMPLEMENTING AUTOMATION AND ARTIFICIAL INTELLIGENCE AT DIGAPAHANDI MARKET YARD, GANJAM, ODISHA.

Our lump-sum rates on works contract basis inclusive of works-contract GST and all other taxes and levies, transport/loading/unloading charges etc. are quoted as under. This tender will remain valid for four months from its date of submission.

(1). Rs _____in words)

for all Refrigeration, electrical, automation, AI, solar and operation assistanceetc.

Ms.

(Name & Address of the Firm)

(Authorised Signature with Date & Seal of the of the Firm)

A. GENERAL INFORMATION OF THE BIDDER

Name of Firm	
Country & Year of Incorporation	
Address of corporate headquarters and its branch office(s) in Odisha	
Details of individual(s) who will serve as the point of contact	(a) Name: (b) Designation: (c) Company: (d) Address: (e) Telephone Number: (f) Fax Number: (g) E-Mail Address:
Enclosures	1. Details As per tender

B. FORMAT FOR ESTABLISHING THE TECHNICAL EXPERIENCE OF THE BIDDER

#	Description	Detail
1	Project Name	
2	Project Location	
3	Project Start & End Date	
4	Cost of the Project (in INR)	
4	Project Description	
5	Project Drawing Samples	

The above table should be submitted for each of the showcased project along with relevant supporting documents (like Work Order/ Contract Agreement/performance certificate from relevant authorities)

Authorized signatory

BILL OF QUANTITY AND PRICE ESTIMATE
FOR SUPPLY, INSTALLATION AND COMMISSIONING OF MULTIPURPOSE SOLAR COLD STORAGE
AT COTTON MARKET, DIGAPAHANDI DIST.: GANJAM, ODISHA.

		30 MT Solar Cold Storage, RMC Digapahandi
1	Chamber - 1: COLD ROOM	27.5' x 17' x 10'
2	Anteroom	27.5' x 10' x 10' Customized WRT Site
3	Electrical and solar system	Customized Solar integration as per RFP
4	Addition to Civil Structure	Addition to the rooftop structure to sustain the cyclone stability of the zone as per RFP.
5	Post Installation Management	Automation in Operation support and marketing support as per RFP

BILL OF QUANTITY					
SL NO	ITEM DETAILS	Quantity	Unit	Rate unit	Amount
COLD ROOM					
1	Refrigeration unit for cold rooms (1) 30000 BTU/Hr.	As per design (APD) RFQ	Nos		
2	100mm thk Wall Panel PP/PP	1095	sqft		
3	100mm thk Ceiling Panel PP/PP	545	sqft		
4	100mm single layer PUF Slab	545	sqft		
5	100mm thk Door 2000mm x 900mm	2	no		
6	Internal Flashing	APD	Rft		
7	External Flashing	APD	Rft		
8	U Profile	APD	Rft		
9	Floor Finish RCC with 8mm TMT 250x250 reinforcement, M-20 grade, Kota Stone top.	545	sqft		
10	CFL Lighting	5	Nos		
11	Digital temperature indicator	2	no		
12	Suspension, T channel and silicon sealant	1	lot		
13	Other misc Accessories	1	lot		
14	External support outside for panel drift incase of inside pressure due to food bagasse load on walls. with drawing	1	lot		
Anteroom					
1	100mm thk Wall Panel PP/PP	500	sqft WRT Site		
2	100mm thk Ceiling Panel PP/PP	300	sqm		
3	Floor Finish RCC with 8mm TMT 250x250 reinforcement, M-20 grade, Kota Stone top.	300	sqm		

4	100mm thk Door 2000mm x 900mm	1	no		
5	Internal Flashing	270	Rft		
6	External Raising	270	Rft		
7	U Profile	270	Rft		
8	CFL Lighting	2	Nos		
9	Suspension, T channel and silicon sealant	1	no		
10	Other misc Accessories	1	lot		
11	External support outside for panel drift incase of inside pressure due to food bagasse load on walls. with drawing	1	lot		
	Electrical and solar system				
1	PV Module	92-134	Nos.		
2	Array Harness Cable (Solar Cable / DC Cable)	200	Mtrs.		
3	DWC Conduit	100	Mtrs		
4	Perforated type Cable Tray with Cover	100	Mtrs.		
5	MC-4 Connectors	125	Pairs		
6	Solar Inverters	1-2.	Nos.		
7	Solar Inverters incase optimizer	92-134	Nos.		
8	DCDB	1-2.	Nos.		
9	Angle/ Frame for Inverter & DCDB fixing	2	Nos.		
10	Cable : DCDB to inverter	40	mtr		
11	Cable pipe & warning tapes	40	mtr		
12	Cable Tie	1	Lot		
13	Module Mounting Structure	1	Lot		
14	STAAD report to substantiate the material used for given wind speed	1	Lot		
15	Hardware (For rooftop / ground Mounting)	1	Lot		
16	Earthing for Solar Plant (DC Modules & DCDB)	1	No		
17	Inverter Protective Earthing Accessories	1	No		
18	Earthing Electrode with Accessories	2	Nos.		
19	Earthing Pits (Excavation & Back filling as required)	5	Mtrs		
20	ESE type LA with Base Plate and Mounting Stand	1	Nos.		
21	Excavation hole for pole & filling	180	Kgs		
22	Mounting pole	1	Nos		
23	Auxiliary arrangements	1	Nos		
24	ACDB	1-2.	Nos		
25	AC Cable (Inverter to ACDB / LT Panels or both)	1-2.	Nos		
26	LT Power Cable (AC) (For Looping between ACDBs to JB / Main LT panel)	1-2.	Nos.		
27	ACDB / LT Panel	100	Mtrs		
28	Angle/Channel for ACDB fixing (if ACDB)	100	Mtrs		

29	Transformers (11 KV/440VONAN)			
30	LT power cable from ACDB / LT Panel to Transformer (11KV/400V)/Bus duct	10	Mtrs	
31	LT control cable from ACDB / LT Panel BKR to Transformer (11KV/400V)/Bus duct	100	Mtrs.	
32	Lightning arrester	1	Lot	
33	Illumination system(lighting exhaust fan+JB+conduit etc..)	2	No	
34	DCDB + incase Battery charger		kWh	
35	Cable pipe	1	Nos.	
36	small tile / warning tape	1	Nos.	
37	Warning tapes	1	NO	
38	Gland (Single Compression) suitable for 4C x 35 sqmm,CU,XLPE,Armoured Cable	1-2.	Nos.	
39	Lugs (Copper) suitable for 4C x 35 sqmm,CU,XLPE,Armoured Cable	10	Nos.	
40	Gland (Double Compression) suitable for 3.5C x 185 sqmm,Al,XLPE,Armoured Cable	1-2.	Nos.	
41	Lugs (Aluminum) suitable for 3.5C x 185 sqmm,Al,XLPE,Armoured Cable	10	Nos.	
42	Lugs (Cu) suitable for 16 sqmm,Cu,PVC,Unarmoured Cable	10	Nos.	
43	Ferrules	25	Nos.	
44	Cable Tags	100	Nos.	
45	Fire Fighting	1	Nos	
46	Cleaning Arrangement	50	Mtrs	
47	Other Electrical and Mechanical accessories	1	Lot	
48	Nut bolts/Screws/Anchor bolts (HDG)	1	Lot	
49	Cable Tie	1	Lot	
50	Insulation Tape	1	Lot	
51	Route marker & Earth Pit marker	1	Lot	
52	Display boards,	1	Lot	
53	danger boards	1	Lot	
54	Walkway (HDG / FRP) including Fasteners	1	Lot	
55	Design & Engineering	1	Lot	
56	Installation, Testing and Commissioning	1	Lot	
57	Zero Export Device	1	Nos	
58	DG Set			
59	DG-SPV-BES integration			
60	NOC from GEDCOL/ OPTCL	1	Nos	
61	Net Metering (incase GPRS/GSM Modem with RS485 with connecting cable)	1	Nos	
62	Insurance 5 years	1	Nos	
63	Operation and Maintenance 5 years	1	Nos	

Addition to Civil Structure					
1	Modifications in civil infra without changing its strength.	1	Nos		
2	Add structure to with stand cyclonic pressure	1	Nos		
Post Installation Management					
1	Automation and AI in operation of cold storage assistance for 5 years AS per RFP	1	Nos		
2	Add farmers to market in post management	1	Nos		
3	Solar cold storage details daily info to RMC / district / state admins	1	Nos		
4	Add food process and consumer markets with AI	1	Nos		
5	Post installation management assistance for 5 years	1	Nos		
				TOTAL	51,57,406

NOTES:

Included civil works except external floor finish.

Included electrical arrangement, panel, cables.

Included front side loading/ unloading area.

Excludes all other works not mentioned above.

All prices are in rupees without GST, taxes and duties.

Technically sanctioned for Rs. 51,57,406 /-

