



नव मंगलूर पत्तन प्राधिकरण
NEW MANGALORE PORT AUTHORITY
यांत्रिक अभियंता विभाग
Mechanical Engineering Department
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No. 8/9ESD-I/Tele/2024/02

Date: 22-03-2024

REQUEST FOR BUDGETARY OFFERS

Sir,

Sub: “Supply, Installation, Testing and Commissioning of LT Control Panel and Distribution Boards at Workshop and Administrative Building, NMPA”.

Budgetary Offer in sealed covers superscribed as “**Supply, Installation, Testing and Commissioning of LT Control Panel and Distribution Boards at Workshop and Administrative Building, NMPA**” may please be submitted addressed to “**The Executive Engineer (Elec.), Electrical Division, Administration Building, New Mangalore Port Authority, Panambur, Mangalore-575010**” not later than **3.00 PM on or before 28.03.2024.**

Sl. No	Item Description	Qty	Unit	Rate (Rs.)	Amount (Rs.)
01	Design, Fabrication, Supplying, testing and Commissioning of Free standing Floor mounting Outdoor LT Control Panel board made out of 2mm GI sheet power coated , 3ph, & N, 440 volts, 50Hz, with accommodate a) 400A, 50Ka, 415V, Four Pole on load Manual Changeover Switch-1No. b) 250A, 25ka, 4P MCCB-01 No c) 160A, 25kA, 4P MCCB-3 Nos. d) 100A, 25kA, 4P MCCB-4 Nos. e) 63A, 10KA, 4P MCB, C-Curve-08 Nos. f) RYB Indicator Lamp,	01	No.		

	<p>g) 240V AC-1set h) CT-400/5A-3Nos. i) 6A, SP MCB-2Nos. j) Digital Voltmeter: 1No 0-500V+Selector Switch k) Digital Ammeter-1No 0-400A+Selector Switch l) Digital Multifunction meter-1No. m) Spreader-6 nos</p> <p>50x10mm copper bus bar with heat shrinkable color sleeves, internal wiring and making suitable foundation etc. complete. (Approximate Dimension : W=2400mm, H=2000mm, D=575mm) (As per Technical Specification, Annexure)</p>				
02	<p>Providing and Fixing MS stand made of angular frame size 2.5mtrs Length x 0.4mtrs width made of 50mmx50mm, 6mm thickness with suitable angular legs size.</p>	01	No		
03	<p>Design, Fabrication, Supplying, testing and Commissioning of Wall mounted Distribution Panel made out of 1.5mm thickness AISI 304 Grade Stainless steel, 3ph, & N, 440 volts, 50Hz, with accommodate</p> <p>a)125A, 25Ka, 415V, Four Pole MCCB-1 No. b) 40A, C-type, 4P MCB-05 Nos. c) 25A, C-type, SP MCB-10 Nos. d) 20A, C-type, SP MCB- 10 Nos. e) 10A, C-type, SP MCB-10 Nos. e) 35sqmm CBT cable connectors-50 nos f) Din Rail- 2mtrs.</p> <p>25x10mm copper bus bar with heat shrinkable color sleeves, internal wiring using 2.5sqmm and 4sqmm copper wires and wiring complete. etc. (Approximate Dimension : 800mm(W)X1000mm(H)X 300mm(D) (As per Technical Specification, Annexure-)</p>	03	No's		
04	<p>Releasing of old Wall mounted Distribution Panel and its internal wiring, MCB, MCCB, Connectors etc complete. 700mm(L)X700mm(W)X200mm(D)</p>	02	No's		
05	<p>Releasing of 3.5 Core x 400 sq.mm 1.1KV, XLPE, PVC extruded inner sheathed</p>				

	Armoured LT Al armoured cable from Old existing LT Feeder Pillar and relaying to Workshop new LT Control Panel via Compound wall by using necessary MS angular clamps. (3.5 Core x 400 sq.mm= 2 runs) (Approximate= 50 Mtrs)	02	Sets		
05	Supplying and making end terminations of cable of size with suitable glands, crimping the lugs with supply, fixing of all required hardware's complete, etc. a) 3.5 Core x 400 sq.mm	02	Sets		
	Total				
	Applicable GST @18%				
	Grand Total				

TERMS & CONDITIONS:

1. The rate quoted for the items shall be firm and F.O.R destination basis. Please note that NMPA is not issuing any concessional C or D forms.
2. Applicable GST will be paid as extra as per actual.
3. Offer shall be submitted in NMPA format only along with Terms & Conditions of Enquiry with seal & signature.
4. The Tenderer may visit the work site and get acquainted himself with the site conditions, nature of work involved before tendering. Any assistance, in this regard will be provided by the department under prior appointment and the undersigned may be contacted for the purpose.
5. The Tenderers should quote their rates in figures as well as in words the amount tendered by them. The amount per each item should be worked out and requisite total should be given. All rates shall be quoted in proper form in the tender schedule enclosed. The rates quoted should be valid for **90 days**.
6. No tools, plant, Labour, equipment, transport, etc., required for the work will be supplied departmentally and contractor has to make his own arrangements.

Sd/-

Executive Engineer (E)
Electrical Division, NMPA

Seal and sign of Tenderer

TECHNICAL SPECIFICATION

A) LT Control Panel

1) The LT Double door Control Panel made out of 2mm GI sheet with powder coated to accommodate 1No. 400A 4P on load Change over switch and R-Y-B indicator, Multifunction meter, 400/5A CT, 50X10mm copper bus bars, Voltmeter, Ammeter as per below mentioned specifications.

- a) Degree of Protection IP55.
- b) Panel Dimensions: 2000(H) X 2400(W) X 575mm (D)
- c) Standardized modular construction shall be adopted to cater for different sizes of Switchgears. The Panel shall be easily extendable at both ends. All switches operating Knob/handle shall be visible other portion should be covered by suitable sheet.
- d) Detachable bottom plates of 2mm thick shall be provided in the cable compartment and terminal chamber. Liberal space shall be provided in the cable compartment to facilitate termination of cables. Provision shall be made for clamping the cables in the cable compartment. The cable support should be suitably designed to adjust (slotted rack type) the clamp at different heights.
- e) The Bus Bar shall be 50x10mm electrolytic copper flats for all Phases and Neutral, air insulated with adequate clearance between conductors and earth shall be color coded to identify phases and Neutral. The bus bar shall be carried on supports made out of suitable non inflammable and non-hygroscopic materials. Suitable insulating phase barriers should be provided to prevent accidental short circuits during operation. The bottom contact shall be so designed that the cable is vertical and does not fall with any live parts in its run.
- f) The SS cable glands shall be at the bottom of the panel and shall be rigidly mounted to the frame.
- g) The copper Earth bus bar with pre drilled holes shall be provided inside throughout the length of panel and two separate earthing studs shall be provided outside the panel. 25x5 mm Copper strip shall be used to inner link all components for earthing. All the doors to earth with base frame through flexible copper pig tail.
- h) Necessary danger boards/labelling shall be fixed on the front.
- i) **Incomer**
 - 400A, 50Ka, 415V, Four Pole on load Manual Changeover Switch-1No.
- j) **Outgoing**
 - 250A, 35ka, 4P MCCB-01 No
 - 160A, 25kA, 4P MCCB-3 Nos.
 - 100A, 25kA, 4P MCCB-4 Nos.
 - 63A, 4P MCB-08 Nos.

2) Multifunction Meter

Display Type: LED

Parameters: V, A, F, PF, KW, KVA, KVAR, KWH, KVAH, KVARH, Run hours

Aux. Supply: 90-300 VAC/DC

Input voltage measurement range: 50-550 VAC

Accuracy Class: 0.5

Size: 96mmx96mm

Voltmeter with selector switch: 0-500V

Ammeter with selector switch: 0-400A

Accuracy Class: 0.5

3) Paint:

Type: Powder Coated, mat finish, Code: 7032

Color: Siemens Grey for both interior and exterior

The fabricated sheet metal will be subjected to pretreatment process before power coating.

4) Name Plate:

Front panel of the cubicle shall contain nameplate as specified in the single diagram.

5) Internal wiring:

Through 1.1KV grade copper standard conductor of grey color of 1.5sqmm wires for control circuits and 2.5sqmm wires for CT secondary circuits shall be punched through PVC channel/ferruling/labelling etc. complete.

B) Wall MOUNTED DISRIBUTION PANEL

1) The Distribution Board made out of 1.5mm thickness AISI 304 Grade Stainless steel to accommodate 1No. 160A, 25kA 4P MCCB 25x5 mm copper bus bars as per below mentioned specifications.

- a) Degree of Protection IP66.
- b) Panel Dimensions: 1000mm (H) X 800mm (W) X 300mm (D)
- c) Material: Enclosure: Stainless steel
- d) Door: Stainless steel, all-around foamed-in PU seal
- e) Mounting plate: Zinc plated
- f) Stainless steel: 1.4301(AISI 304)
- g) Supply includes: Enclosure with doors.
- h) Mounting Plate
- i) Lock: 3mm double bit
- j) PROTECTION CATEGORY NEMA: NEMA 12
- k) IK Code: IK08
- l) Dimensions mounting plate: 739mm (W) x955mm (H)
- m) Number of Locks: 02
- n) Lock Material: Die cast zinc, nickel plated

- 2) The Bus Bar shall be 25X10mm electrolytic copper flats for all Phases and Neutral, air insulated with adequate clearance between conductors and earth shall be color coded to identify phases and Neutral. The busbar shall be carried on supports made out of suitable non inflammable and non-hygroscopic materials. Suitable insulating phase barriers should be provided to prevent accidental short circuits during operation. The bottom contact shall be so designed that the cable is vertical and does not fall with any live parts in its run.
- 3) The SS cable glands shall be at the bottom of the panel and shall be rigidly mounted to the frame.
- 4) The copper Earth bus bar with pre drilled holes shall be provided inside and two separate earthing studs shall be provided outside the panel. 25x3 mm Copper strip shall be used to inner link all components for earthing. All the doors to earth with base frame through flexible copper pig tail.
- 5) Necessary danger boards shall be fixed on the front and rear cover of the panel.
- 6) **Incomer**
 - 160A, 25Ka, 415V, MCCB-1No.
- 7) **Outgoing**
 - 40A, C-type, 4P MCB-05 Nos.
 - 25A, C-type, SP MCB-10 Nos.
 - 20A, C-type, SP MCB- 10 Nos.
 - 10A, C-type, SP MCB-10 Nos.
 - 35sqmm CBT cable connectors-50 nos
 - Din Rail- 2mtrs.
- 8) **Internal wiring:** Through 1.1KV grade copper standard conductor of 1.5sqmm, 2.5sqmm and 4 sqmm Copper wires are control circuits.

Sd/-
Executive Engineer (E)
Electrical Division, NMPA