

DEENDAYAL PORT AUTHORITY

An ISO 9001:2008 & ISO 14001:2004 Certified Port

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Office of the Executive Engineer (E)
Ground Floor, P & C Building,
New Kandla – Kachchh,
Pin.370210-Gujarat.

No.: EL/AC/_____

Date: 01/08/2024

EXPRESSION OF INTEREST

(This Notice is issued only to elicit Expression of Interest from the parties interested in the work and does not constitute any binding commitment from the Deendayal Port Trust to proceed with the work or invite any or all the parties in the subsequent bidding process. The Open Tenders will be issued subsequently)

To,

_____.

Sub: "EOI for Special Repairs to ATM Office, Marine Bhavan, Immigration Centre Inside Cargo Jetty area –electrification work thereof."

Sir,

You are requested to submit Expression of Interest for "Special Repairs to ATM Office, Marine Bhavan, Immigration Centre Inside Cargo Jetty area –electrification work thereof." as per schedule-B, Scope of Work and Terms & Conditions.

The Expression of Interest should reach to this office on or before 08/08/2024.

Yours faithfully

Sd/-
Executive Engineer (E)
Deendayal Port Authority

Schedule-B

Sr. No.	Description	Qty	Unit	Rate	Amount
1	Providing & fixing following concealed/surface wiring for single phase sub-circuit from the main switch /meter/DBs /MCBs to the switch board with 2 x 2.5 Sq.mm. copper conductor to be used as phase & neutral and bare copper wire as earthing as per Technical Specification No. 1	1395	Mtr.		
2	Providing and Fixing concealed/surface wiring for modular light/tube/bell point with PVC insulated single core standard 1.5 Sq.mm. copper conductor wire as per Technical Specification No.2	800	Ea.		
3	Providing and Fixing concealed/Surface wiring for modular Fan point with PVC insulated single core standard 1.5 Sq.mm. copper conductor wire & single/twin module step cut electronic fan regulator as case may be as per Technical Specification No. 03	85	Ea.		
4	Providing and fixing concealed/surface wiring for 3 x 5/6A X250 Volt Modular Half point as per Technical Specification No. 04	90	Ea.		
5	Providing and fixing concealed/surface wiring for 3 x 5/6A X250 Volt modular plug point with 3nos. SP switches for computer as per Technical Specification No. 6	75	Ea.		
6	Providing & fixing following concealed/surface wiring for single phase sub-circuit from the main switch /meter/DBs /MCBs to the switch board with 2 x 4 Sq.mm. copper conductor to be used as phase & neutral and bare copper wire as earthing as per Technical Specification no. 6	850	Mtr.		
7	Supply, Installation of following Load Point Panel as per Technical specification No:- 07	02	Ea.		
8	Supply of 4 Way TPN (8 + 12 Module) Double Door Distribution Board as per Technical specification No:- 8	05	Ea.		

9	Installation of 4 Way TPN (8 + 12 Module) Double Door Distribution Board as per Technical specification No:- 9	05	Ea.		
10	Supply of 6-32 A SP MCB with 10kA Breaking Capacity in 'C' Series as per Technical Specification No. 10	190	Ea.		
11	Fixing of GI Perforated Cable tray as per technical specification no. 11	250	Mtr.		
12	Supply of 18 Watt Sleek LED Down Light as per Technical Specification No:- 12	780	Ea.		
13	Fixing of 18 Watt Sleek LED Down Light as per Technical Specification No:- 13	770	Ea.		
14	Installation of 1200 mm Sweep BLDC fan as per technical specification no. 14	55	Ea.		
15	Supply of 400 mm Sweep wall mounting fan as per technical specification no. 15	15	Ea.		
16	Installation of 400 mm Sweep wall mounting fan as per technical specification no. 16	15	Ea.		
17	Supply of 300 mm Sweep exhaust fan as per technical specification no. 17	15	Ea.		
18	Installation of 300 mm Sweep exhaust fan as per technical specification no. 18	15	Ea.		
19	Supply of 4C x 185 Sq. mm. Aluminium armoured LT XLPE Cable as per Technical Specification no.19	150	Mtr.		
20	Laying of 4C x 185 Sq. mm. Aluminium armoured LT XLPE Cable of 1.1kV grade in Existing Cable Trench as per Technical no.20	100	Mtr.		
21	Laying of LT 4C x 185 sq. mm. armoured aluminium conductor XLPE cable of 1.1kV grade by Cutting RCC as per Technical Specification no. 21	50	Mtr.		
22	Supply of 4C x 25 Sq. mm. Aluminium armoured LT XLPE Cable as per Technical Specification no.22	600	Mtr.		

23	Laying of 4C x 25 Sq. mm. Aluminium armoured LT XLPE Cable of 1.1kV grade through cable tray/in fall ceiling as per technical specification no. 23	600	Mtr.		
24	Preparation earthing station, chemical treated back filled compound earthing system with Pipe-In-Pipe 50 mm Dia. GI type 3 Mtr. Depth , Maintenance free as per Technical Specification No. 24	6	Nos.		
25	Providing & connecting 12 SWG GI earthing wire for earth station to equipment as per Technical specification No:- 25.	400	Mtrs.		
26	Providing & connecting 25x 3 GI earthing strip for earth station to equipment as per Technical specification No:- 26.	250	Mtrs.		
Total Amount in INR					

(In words Rupees _____ only)

(NOTE: The rates should be inclusive of all taxes, duties, fees, cess etc and all incidental charges; but exclusive of GST).

Signature & Seal of Contractor

Sd/-
Executive Engineer (E)
Deendayal Port Authority

SCOPE OF WORK

The Deendayal Port Authority is the one of the Major Port in India, under administrative control of Shipping Ministry, Govt. Of India. The Specification is intended to cover the Electrification work for Special Repairs to ATM Office, Marine Bhavan, Immigration Centre Inside Cargo Jetty Area. The works will be carried out simultaneously with Civil work, which includes electrical part i.e. Supply & laying of power cables from the different sources, Supply, Installation and Commissioning of Ceiling Fans, LED Lights fittings/ internal concealed wiring. The work shall be executed as per IER & to the satisfaction of the Engineer-in -Charge. For installation of equipments, the contractor shall arrange all types of tool & tackles.

TECHNICAL SPECIFICATIONS

Technical Specification No. 1

The item includes providing & fixing concealed/surface wiring for single phase sub-circuit from the main switch /meter /DBs / MCBs to the switchboard with Flame Retardant, 1100 Voltage grade, single core stranded copper conductor wire of size 2.5

sq. mm. for phase & neutral wire and 1.5 Sq.mm continuous stranded copper conductor wire for earth to be laid through PVC Round Pipe of suitable of Medium Mechanical Strength (MMS) type and other accessories such as Tee, junction box, inspection bends, elbow etc. of approved make. The proper size of groove shall be prepared by contractor on wall/ceiling as case may be & the conduit pipe shall be laid through prepared groove and in case of new construction the pipes shall be laid during reinforcement work. After laying of pipe the groove shall be closed with mixture of cement & sand and to match with existing surface of wall/ceiling. Complete work consists of necessary wiring connections and earth linking at both the ends with all materials and labour as directed by Engineer-in-charge.

Technical Specification No. 2

The item includes providing & fixing concealed/surface wiring for Modular light/tube/bell point from switchboard with Flame Retardant, 1100 Voltage grade, single core stranded copper conductor wire with IS: 694/1990 of size 1.5 sq. mm. for phase & neutral wire and 1.0 Sq.mm continuous stranded copper conductor wire for earth to be laid through PVC Round Pipe of size 20 mm Diameter of Medium Mechanical Strength (MMS) type and other accessories such as Tee, junction box, inspection bends, elbow etc. of approved make. The proper size of groove shall be prepared in old construction by contractor on wall/ floor and the conduit pipe shall be laid through prepared groove in such case on the ceiling portion the pipe is to be laid on the false ceiling by clamping properly. But for new construction the pipes shall be laid during reinforcement work. After laying of pipe the groove shall be closed with mixture of cement & sand and to match with existing surface of wall/ceiling/ floor also in case of false ceiling the pipe shall be properly clamped over the ceiling. The work consists providing & fixing of one Module Bell Push/SP switch 6A x 250V with spark shield ISI mark and to meet specifications of IS & 3 plate Ceiling Rose/Angle Holder made from polycarbonate on suitable size of PVC box with cover. The PVC unbreakable concealed box for required modules shall be embedded properly in the wall and the switches shall be fixed on Modular Plates for required Modules on the embedded box. The complete work consists necessary wiring connections and earth linking at both the ends with all materials and labour as directed by Engineer-in-charge.

Technical Specification No. 3

The item includes providing & fixing concealed/surface wiring for Modular fan point from switchboard with Flame Retardant, 1100 Voltage grade, single core stranded copper conductor wire of size 1.5 sq. mm. for phase & neutral wire and 1.0 Sq.mm continuous stranded copper conductor wire for earth to be laid through PVC Round Pipe of size 20 mm Diameter of Medium Mechanical Strength (MMS) type and other accessories such as Tee, junction box, inspection bends, elbow etc. of approved make. The proper size of groove shall be prepared in old construction by contractor on wall/ floor and the conduit pipe shall be laid through prepared groove in such case on the ceiling portion the pipe is to be laid on the false ceiling by clamping properly. But for new construction the pipes shall be laid during reinforcement work. After laying of pipe the groove shall be closed with mixture of cement & sand and to match with existing surface of wall/ceiling. The work consists providing & fixing of one module SP switch 6A x 250V with spark shield with ISI mark and to meet specifications of IS, 2 module Step cut electronic fan regulator with rotary steps & 3 plate Ceiling Rose made from polycarbonate on suitable size of PVC box with cover. The PVC unbreakable concealed box for required modules shall be embedded properly in the

wall and the switches shall be fixed on Modular Plates for required Modules on the embedded box. The complete work consists necessary wiring connections and earth linking at both the ends with all materials and labour as directed by Engineer-in-charge.

Technical Specification No. 4

The item includes providing & fixing half Modular point in existing switch board with Flame Retardant, 1100 Voltage grade, single core stranded copper conductor wire with IS of size 1.5 sq. mm. for phase, neutral & earth. The work consists providing & fixing of one module SP switch 6A x 250V with spark shield with ISI mark and to meet specifications of IS, and 2 Module Modular 2 in 1 socket 6A x 250V with shutter made from polycarbonate on existing modular plate (by considering 3 extra modules for half point in point wiring for light/fan/tube/bell point). The complete work consists necessary wiring connections and earth linking with all materials and labour as directed by Engineer-in-charge.

Technical Specification No. 5

The item includes providing & fixing concealed wiring for Modular plug point for computers (With 2 module, 4 nos. 2 in 1 socket 6A x 250V & 4 nos. 1 module SP switch 6A x 250V with spark shield) with Flame Retardant, 1100 Voltage grade, single core stranded copper conductor wire with IS of size 2.5 sq. mm. for phase & neutral wire and 1.5 Sq.mm continuous stranded copper conductor wire for earth to be laid through PVC Round Pipe of size 20 mm Diameter of Medium Mechanical Strength (MMS) type and other accessories such as Tee, junction box, inspection bends, elbow etc. of approved make. The proper size of groove shall be prepared in old construction by contractor on wall/ floor and the conduit pipe shall be laid through prepared groove in such case on the ceiling portion the pipe is to be laid on the false ceiling by clamping properly. But for new construction the pipes shall be laid during reinforcement work. After laying of pipe the groove shall be closed with mixture of cement & sand and to match with existing surface of wall/ceiling. The work consists providing & fixing of 2 module, 4nos. 2 in 1 socket 6A x 250V & 4 nos. 1 module SP switch 6A x 250V with spark shield with ISI mark and to meet specifications of IS on suitable size of PVC unbreakable concealed box with 12 module modular plate. The PVC unbreakable concealed box shall be embedded properly in the wall / wooden table and the switches & Sockets shall be fixed on 12-module modular plate and modular plated shall be fixed on the embedded box. The complete work consists necessary wiring connections and earth linking at both the ends with all materials and labour as directed by Engineer-in-charge.

Technical Specification No.6

The item includes providing & fixing concealed wiring for single phase sub-circuit from the main switch /meter /DBs / MCBs to the switchboard with Flame Retardant, 1100 Voltage grade, single core stranded copper conductor wire of size 4 sq. mm. for phase & neutral wire and 2.5 Sq.mm continuous stranded copper conductor wire for earth to be laid through PVC Round Pipe of suitable size of Medium Mechanical Strength (MMS) type and other accessories such as Tee, junction box, inspection bends, elbow etc. of approved make. The proper size of groove shall be prepared by contractor on wall/ceiling

as case may be & the conduit pipe shall be laid through prepared groove and in case of new construction the pipes shall be laid during reinforcement work. After laying of pipe the groove shall be closed with mixture of cement & sand and to match with existing surface of wall/ceiling. Complete work consists of necessary wiring connections and earth linking at both the ends with all materials and labour as directed by Engineer-in-charge.

Technical Specification No.7

This includes design, supply, Installation, Testing and commissioning of outdoor type Panel with double door, top canopy and handle with locking arrangement. Sub Load Point Panel board frame shall be fabricated from Heavy Duty CRCA sheet steel minimum 2.5 mm thick, pressed & shaped.

The Board shall be enclosed by sheet steel of minimum 2 mm thickness smoothly finished & level, door & covers shall be made 1.6 mm thick sheet steel. Adequate stiffeners shall be provided wherever necessary.

Dust & vermin proof Protection Class: IP 52.

Bottom Cable entry.

All panel edges and door edges shall be reinforced against distortion. Cut outs shall be true in shape and devoid of sharp edges.

The complete structure shall be rigid, self-supporting free from vibration, twists & bends.

The Panel shall be painted with two coats of zinc rich primer paint and two coats of colour pigmented epoxy paint.

Finished painted appearance of equipment shall present an aesthetically, pleasing appearance, free from dents and uneven surfaces.

The Sub Load Point Panel shall be spacious for easy maintenance and shall be provided with following electrical items:

- 1) 400 Amp, 4P MCCB (Microprocessor based), 50kA: 1 No. for Incomer
- 2) 400 Amp, 4 P Change Over Switch
- 3) A set of TPN Copper bus bar for (after considering all necessary ratings) 3 phase 4wire, 50Hz.
- 4) (All Internal Wiring With copper Wire)
- 5) 250 Amp, 4P MCCB, 36 kA: 2 No. (Outgoing)
- 6) 125 Amp, 4P MCCB, 25 kA: 2 Nos. (Outgoing)
- 7) 100 Amp. 4 P MCCB: 25 kA: 2 Nos. (Outgoing)
- 8) Digital Multi-Function Energy Meter (Accuracy Class 0.5): 1 No.
- 9) 400/5 Amp CT (Class 1): 3 Nos.
- 10) Phase R, Y & B Indication Lamp: 3 Nos.

Technical Specification No.8

This includes supply of 4 way Double Door TPN DB as per following specification & make.

- No. of Ways: 4 (8 Incomer + 12 Outgoing)

Protection device type: Main incomer: Molded case circuit breaker (MCB) - 3P or 4P

Outgoing: Miniature circuit breaker (MCB) - 1P or 3P
Enclosure/Cubicle description: Double door enclosure
Enclosure material: CRCA
Colour: White (RAL 9003)
Total number of 18 mm modules: 20

Environment

- IP degree of protection IP43

- IK degree of protection IK09

Standards IS 8623-1 IS 8623-3 IEC 61439-3

Product certifications: NABL

Make: L & T/Schneider/Siemens/ABB/Hager

The DB shall be fitted with Busbar, DIN Rail and neutral link. The rates shall be excluding the cost of MCB as directed by Engineer-in-Charge.

Technical Specification No. 9

This includes fixing & commissioning of supplied double door 4 Way TPN DB on wall / structure as directed. The DB shall be fixed rigidly on wall through suitable size of nut bolts/anchor fasteners/cemented wooden gutties as directed. This includes necessary wiring, connections & earth linking with all material, labour tools & tackles as directed by Engineer-In-charge.

Technical Specification No. 10

This includes supply of DIN Rail mounted 'C' Series 6-32 Amps. X 240 Volts 50 Hz. Single Pole MCB with 10kA Breaking Capacity. The terminals of MCB shall be serrated type. The impulse withstand voltage and impulse power frequency voltage shall be 4KV (1.2/50 μ s & 2KV (50Hz.).

Technical Specification No. 11

This include fabrication & Installation of 50 mm (W) x 25 mm (h) heavy duty 14 SWG perforated type cable trays including horizontal, vertical bends, reducers, tees, cross members & other accessories as required and duly suspended from the ceiling and /or fix to steel/RCC columns, beams or any other structure members with MS suspenders, angles, channels with all required material, accessories and labors as directed by Engineer-In-charge.

Technical Specification No. 12

This includes supply of 18 Watt Round Sleek LED Down Light having Robust Design with Pressure Die-Cast Alu. Housing, ensuring long life as per per following technical specification.

- 1) Lumen: 2000 Lm
- 2) System Power : 18 Watt
- 3) CCT: 6500 K
- 4) CRI >80
- 5) Efficacy of >110 lm/w
- 6) Surge Protection: 2.5 kV
- 7) Input Voltage Range: 130-320 V AC
- 8) Beam Angle 120°

- 9) Optical Cover/Lens Type: Polycarbonate
- 10) Material : Housing: Pressure Die Cast Aluminum
Diffuser: Polycarbonate
Clip : Steel Clip (Spring)
- 11) Driver: Yes Included
- 12) Power Factor (Min): 0.95
- 13) Ingress Protection Code: IP 20
- 14) Mech. Impact Protection Code: IK02
- 15) Warrantee: 2 Year

Technical Specification for Item No. 13

This includes fixing & commissioning of supplied 18 Watt Round Sleek LED Down Light Luminaries on existing false ceiling by making & providing necessary cutout of fitting dimensions and required supporting material, facilitate mounting in false ceilings as directed. The fitting shall be fixed rigidly nearby fitting through suitable size of screws/nut bolts/anchor fasteners and connections with 3 core flexible copper cable from nearest source of supply/ceiling rose & necessary connections with all material and labour and as directed by Engineer-In-charge.

Technical Specification for Item No. 14:

This includes fixing & commissioning of ceiling fan with all accessories in existing hook including necessary wiring and connection from nearest point / Ceiling rose through PVC flexible copper conductor wire and earth linking etc. The rotary step cut electronic regulator shall be fixed and screwed rigidly on switch board including wiring and connection etc. with all material and labour as directed by Engineer-in-charge.

Technical Specification for Item No. 15:

This includes supply of 400 mm sweep wall mounting fan as per following technical specification

- Sweep: 400 mm
- Speed: 1300 rpm minimum
- Power Consumption: 60 Watt Maximum
- No. of Blades: 3800 M³/Hour Minimum

Technical Specification for Item No. 16:

This includes fixing & commissioning of supplied wall mounted fan 2.5 meter from floor or at suitable height so that breeze air can spread over the area of floor. The fan is to fixed on suitable size of anchor fastener bolts or cemented wooden gutties as directed, and connections with 3 core flexible copper cable from nearest source of supply with all material and labour and as directed by Engineer-In-charge.

Technical Specification for Item No. 17:

This includes supply of exhaust fan of size 300 mm with capacitor start and run type motor, continuously rated, totally enclosed fitted with heavy duty grease filled double ball bearing that ensures noiseless performance and long lasting smoother life of fan suitable for single phase 220/250 Volts A.C. 50HZ. The impeller shall be used in an Exhaust Fan is of the propeller type & both hub and impeller shall be dynamically balanced, frames and arms mounted on rubber bushings, to avoid vibrations.

Technical Specification for Item No. 18:

This includes fixing & commissioning of supplied exhaust fan as per direction of EIC on exhaust hole so that discharge of exhaust air can be done easily. However if exhaust hole is not provided, it is to be done by contractor. The grouting of the fan is to be done by suitable size of anchor fastener bolts, and by providing metallic mesh/louvers as directed to other side so that birds can be restricted in the passage. This includes connections with 3 core flexible copper cable from nearest source of supply & necessary connections & earth linking with all material and labour and as directed by Engineer-In-Charge.

Technical Specification No.19

Supply at site 4C X 185 Sq.mm XLPE Insulated 1.1 KV grade, Aluminum conductor, XLPE insulated armored cable confirming to IS: 7098 (Part-I) 1988 with up to date amendments and of approved make with ISI mark. The manufacturer shall produce TYPE TEST certificate with similar size of cable, which shall not be more than 5 years old. The cable shall have marking/embossing at the interval of every meter showing its progressive length. During the cable inspection, the manufacturer shall show the relevant ROUTINE TESTS to inspecting authority or otherwise the manufacturer shall produce the routine test certificate during supply of cable at site.

Technical Specification No.20

This includes laying of 4C x 185 sq. mm. cable in existing cable trench. However, if no trench available the cable, the cable shall be laid through DWC pipe of suitable size. The pipe shall be arranged by the contractor without any additional cost to DPA. The work include all required labor and material as directed by Engineer In Charge.

Technical Specification No.21

This includes making of groove by cutting of RCC through RCC Cutter equipment. After making of groove, 4C x 185 sq. mm. LT cable shall be laid in through suitable size of DWC pipe. After laying of cable necessary Civil work i.e. required propositional Cement Concrete (CC) & curing shall be done on cutting area by the contractor with all required labors & material and as directed by Engineer In Charge.

Technical Specification No.22

Supply at site 4C X 25 Sq.mm XLPE Insulated 1.1 KV grade, 4 core aluminium conductor, XLPE insulated armored cable confirming to IS: 7098 (Part-I) 1988 with up to date amendments and of approved make with ISI mark. The manufacturer shall produce TYPE TEST certificate with similar size of cable, which shall not be more than 5 years old. The cable shall have marking/embossing at the interval of every meter showing its progressive length. During the cable inspection, the manufacturer shall show the relevant ROUTINE TESTS to inspecting authority or otherwise the manufacturer shall produce the routine test certificate during supply of cable at site.

Technical Specification No.23

This include Laying Single /Double length of 4C X 25 Sq.mm LT armored aluminum conductor XLPE cable of 1.1kV grade in cable tray/in fall ceiling through PVC pipe/conduit pipe with all required labors and materials and as directed by Engineer In-Charge.

Technical Specification No.24

This includes preparation of earth station with chemical treated back filled compound 50 mm dia. Pipe In Pipe GI Type 2 Mtr Depth , Maintenance free including all accessories & Masonry work Enclosure with cover plate.

A cement concrete (ratio 1:4:8) chamber of at least 30 Cm. x 30 Cm. shall be provided just below the surface of ground over the funnel for watering and having RCC/CI cover of suitable size as directed. This also includes removal of extra-excavated earth from the site. The work shall be carried out to entire satisfaction of Engineer-in-charge. This work includes all labour and material as directed by Engineer-in-Charge. The works also include earthing value marking & painting on earth strips & earthing station by suitable paints (Green Color on Strips) and also mentioned the earth value on earth pits.

Technical Specification No. 25

The works include providing & fixing the 12 SWG GI wire, from earth station to equipment / Main DB or as per site requirement by providing & fixing suitable Dia Medium duty PVC conduit pipe in concealed/surface manner. The complete work consists necessary wiring connections and earth linking at both the ends with all materials and labour as directed by Engineer-in-charge

Technical Specification No. 26

This includes supply, Laying & connecting of 25 x 3 GI Strip, from DB/Meter /Switch to earth station. The complete work consists necessary wiring connections and earth linking at both the ends with all materials and labour as directed by Engineer-in-charge.

- Note:** 1) Any ancillary work arises during the execution of work, which is required to complete the work, the Contractor shall complete the item/items by carrying out such ancillary work without any extra payment.
- 2) The work shall be carried out with entire satisfaction of Engineer-in-Charge.

Sd/-

Signature & Seal of Contractor

Executive Engineer (E)
Deendayal Port Authority

Approved Make List of Electrical Items		
Sr. No.	Description	Recommended Makes
1	HV VCB	SIEMENS/CROMPTON GREAVES/ABB/Schneider
1(a)	HV Gas Insulated Breakers	SIEMENS /Schneider/ABB
2	POWER TRANSFORMERS	VOLTAMP/CROMPTON GREAVES /BHARAT BIJLEE/ BHEL/ SIEMENS/ABB/ Schneider/T&R
3	DISTRIBUTION TRANSFORMERS	EMCO/KIRLOSKAR/PATSON/VOLTA MP/ABB/Schneider/T&R
4	RESIN CAST TRANSFORMERS	
	A) RESIN CAST IMPREGNATED	VOLTAMP / KIRLOSKAR / EMCO
	B) DRY CAST	VOLTAMP/KIRLOSKAR/EMCO
5	HT XLPE CABLES	POLYCAB/ TORRENT/ RPG ASIAN/ GLOSTER/ UNISTAR
6	LT XLPE CABLES	POLYCAB/TORRENT/RPG ASIAN/ RALLISON/PRIMECAB/ HAVELLS/ UNISTAR/AVOCAB/ALLCAB/ADCAB
7	LT ACB	SIEMENS/L&T/SCHNEIDER/C&S
8	PROTECTION RELAYS	AREVA/L&T/SIEMENS/ABB/C&S
9	LT PANEL	CPRI APPROVED
10	CHANGE OVER SWITCH	SIEMENS/L&T/ABB/C&S/SCHNIDER/ LEGRAND / INDOASIAN
11	SFU FOR MAIN LT DISTRIBUTION PANELS	SIEMENS/L&T/ABB/C&S
12	SFU FOR DISTRIBUTION PANELS & FEEDER PILLERS	SIEMENS/L&T/ABB/C&S/ SCHNEIDER/ LEGRAND/ INDOASIAN/HAVELLS
13	MCCB FOR MAIN LT DISTRIBUTION PANELS	SIEMENS/L&T/ABB
14	MCCB FOR DISTRIBUTION PANELS AND FEEDER PILLERS	SIEMENS/L&T/ABB/C&S/ SCHNIDER/ LEGRAND/ INDOASIAN/HAVELLS
15	MCB/ELCB/RCCB/ RCCBO FOR MAIN LT DISTRIBUTION PANELS	SIEMENS/HAGER L&T/ABB
16	MCB FOR DISTRIBUTION PANELS AND FEEDER PILLERS	SIEMENS/L&T/ABB/C&S/ SCHNEIDER/ LEGRAND/ INDOASIAN/ HAVELLS/ STANDARD

17	MCB DISTRIBUTION BOARD	STANDARD / HENSEL/LEGRAND / INDOASIAN / HAVELLS
18	MULTI FUNCTION DIGITAL METER FOR MAIN LT DISTRIBUTION PANELS/DIGITAL KWH METERS	L&T/ENERCON/SECURE/L&G/ RISHABH
19	ANALOG VOLT/AMPARE METER FOR DISTRIBUTION PANELS AND FEEDER PILLERS	RISHABH/AE/ENERCON/L&T
20	SLECTOR SWITCH FOR VOLTMETER/AMPARE METER	L&T/SIEMENS/C&S
21	POWER CONTACTOR & OVER LOAD RELAYS	L&T/SIEMENS/ABB
22	QUARTZ TIME CLOCK SWITCH	L&T/INDOASIAN/SIEMENS
23	PVC WIRE WITH COPPER CONDUCTOR	RRKABEL/KEI/POLYCAB/MILEX/GUJCA B/ STANDARD/ FINOLEX/ ANCHOR
24	FLUSH TYPE SWITCHES, SOCKETS, HOLDERS AND CEILING ROSES & ELECTRONIC REGULATORS	ANCHOR/MK/NORTHWEST/VINAY/PANAMA/HAVELLS
25	DOOR BELLS/CALL BELLS	ANCHOR/LEGEND/MK/NORTHWEST
26	MODULAR SWITCHES, SOCKETS, PLATES & BOXES	ANCHOR / MK / NORTHWEST / LEGRAND /HAVELLS/ INDOASIAN/ SIEMENS
27	PVC CONDUIT/OVAL CONDUIT & CASSING CAPPING AND ACCESSORIES	PRECISION/VULCAN/FINOLEX/ GARWARE/ RESTOPLAST/ SWASTIK/ BPI
28	GLS LAMPS & FLUORESCENT LAMPS	PHILIPS / BAJAJ / WIPRO / CROMPTON GREAVES / OSRAM / SURYA ROSHNI /GE
29	HPSV, HPMV & METAL HELIDE LAMPS	PHILIPS / BAJAJ / WIPRO / CROMPTON GREAVES / OSRAM / SURYA ROSHNI /GE
30	IGNITORS FOR HPSV, METAL HELIDE LAMPS	PHILIPS / BAJAJ / WIPRO / CROMPTON GREAVES / OSRAM / SURYA ROSHNI /GE
31	LUMINARIES	PHILIPS/BAJAJ/WIPRO/CROMPTON GREAVES / OSRAM / SURYA ROSHNI /GE
31a	LED Luminaries	Philips/Bajaj/Wipro/CG/Surya/ Pyrotech/Syska/Nessa having surge Protection $\geq 10KV$ for fittings &

		internal Surge protection for Driver of $\geq 4\text{KV}$, LED Chip only OSRAM/CREE/Philips Lumileds/Citizen/Nicia with LM-79,80 CERTIFICATION
32	CEILING FANS	BAJAJ/ORIENT/USHA/CROMPTON GREAVES / ALMONARD/GEC
33	WALL MOUNTING FANS	BAJAJ/ORIENT/USHA/CROMPTON GREAVES / ALMONARD/GEC
34	EXHUAUST FANS	BAJAJ/ORIENT/USHA/CROMPTON GREAVES / ALMONARD/GEC
35	HEAVY DUTY INDUSTRIAL WALL MOUNTING FANS	BAJAJ/ORIENT/USHA/CROMPTON GREAVES / ALMONARD/GEC
36	WATER COOLER	VOLTAS/SHRIRAM USHA/BLUE STAR
37	AIR CONDITIONERS	VOLTAS/CARRIER/BLUESTAR/USHA/HITACHI/LG/ SAMSUNG/ONIDA
38	REFRIGERATORS	VOLTAS/CARRIER/BLUESTAR/USHA/HITACHI/LG/ SAMSUNG/WHIRLPOOL
39	VOLTAGE STABILIZER	VEELINE / CAPRI
40	INVERTERS	SUKAM / MICROTEK
41	D.G. SETS (a) ENGINE (b) ALTERNATOR	CUMMINS/GREAVES/KIRLOSKAR/CATERPILLAR/ASHOK EYLAND/VOLVO STAMFORD/CROMPTON GREAVES /JYOTI/ KIRLOSKAR ELECTRIC
42	ELECTRIC MOTOR	ALSTOM/CROMPTON GREAVES /SIEMENS/ KIRLOSKAR/ABB
43	WATER PUMPS	SWASTIK / KSB
44	WATER GEYSER	BAJAJ/USHA / CROMPTON GREAVES / SPHEREHOT / RACOLD
45	LUGS & CABLE GLANDS	DOWELLS / JAINSON / BRACO

**Seal & Sign of
Contractor**

Sd/-
**Executive Engineer (E)
Deendayal Port Authority**