



# DEENDAYAL PORT AUTHORITY

ISO 9001:2008 | ISO 14001 | ISPS Compliant Port



Office of Executive Engineer (Electrical), Ground Floor, Nirman Building, New Kandla, Kutch,

Pin Code 370210.

No.: EL/AC/ EOI/Gopalpuri Hospital/

Date: 02/01/2025

## **EXPRESSION OF INTEREST [EOI]**

“Construction of Additional & Alteration of Gopalpuri Hospital, Gandhidham – Electrical Part”

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

Executive Engineer (Electrical), DPA invites Expression of Interest for the work of “Construction of Additional & Alteration of Gopalpuri Hospital, Gandhidham – Electrical Part” from the reputed firms from those who have executed similar work in Government/public sectors and other leading private organizations. The Expression of Interest (EOI) documents containing details of Technical Specifications & Approved Make List are enclosed herewith.

The interested firms are requested to submit their expression of interest for the said work in BOQ format as enclosed at Annexure I. The completed EOI (Expression of Interest) shall be submitted to the office of the undersigned on or before 06/01/2025. A soft copy of EOI is also acceptable through e-mail Id [xenedpa@gmail.com](mailto:xenedpa@gmail.com) & [deepak.hazra@deendayalport.gov.in](mailto:deepak.hazra@deendayalport.gov.in)

Sd/-

Executive Engineer (E)  
Deendayal Port Authority

**ELECTRICAL DIVISION****Name of Work: Construction of Addition & Alteration of Gopalpuri Hospital, G'dham**

S/N	Description	Qty	Unit	Rate	Amount
1	Supply, Installation, Testing and commissioning of Feeder Panel for distribution of underground power supply as per the technical specification No. 1.				
(i)	Supply	5	No.		
(ii)	Installation, Testing and commissioning	5	No.		
2	Supply at site 4 Core, LT armoured aluminium conductor XLPE cable of 1.1kV grade of following type & size as per the Technical Specification No. 2.				
(a)	4 Core X 70 Sq.mm	1000	Mtr.		
(b)	4 Core X 50 Sq.mm	200	Mtr.		
(c)	4 Core X 16 Sq.mm	800	Mtr.		
(e)	4 Core X 4 Sq.mm	200	Mtr.		
3	Laying, Testing & Commissioning of HT & LT XLPE cables of various sizes through following and as per the Technical Specification No. 3.				
(a)	Laying of Cable through excavation in all type of Soil as per the tech. specification No. 3 (a).	1600	Mtr.		
(b)	Laying of cable in G.I. Perforated Cable tray as per the Technical Specification No. 3 (b).	500	Mtr.		
(c)	Laying of Cable through horizontal boring in RCC Road /RCC surface by providing heavy duty HDPE pipe of suitable size as per the technical Specification No. 3 (c).	100	Mtr.		

4	Providing & fixing following concealed wiring for single phase sub-circuit from the main switch / meter/ DBs / MCBs to the switch board with copper conductor of following sizes to be used as phase & neutral and bare copper wire as earthing as per the Technical Specification No. 4.				
(a)	With 2 x 2.5 Sq.mm. copper conductor	3500	Mtr.		
(b)	With 2 x 4.0 Sq.mm. copper conductor	2000	Mtr.		
(c)	With 2 x 6.0 Sq.mm. copper conductor	3800	Mtr.		
5	Providing and Fixing concealed wiring for modular light/tube/bell point with PVC insulated single core standard 1.5 Sq.mm. copper conductor wire as per the Technical Specification No. 5.	542	No.		
6	Providing and Fixing concealed wiring for modular Fan point with PVC insulated single core standard 1.5 Sq.mm. copper conductor wire & single/twin module electronic fan regulator as per the Technical Specification No. 6.	86	No.		
7	Providing and fixing Surface wiring for Modular 5/6A X 220 Volt. as per the Technical Specification No. 7.				
(a)	Full plug point.	50	No.		
(b)	Half Plug Point.	100	No.		
8	Providing and fixing concealed wiring for 15/16A X220 Volt Modular power point as per the Technical Specification No. 8.	100	No.		
9	Providing and fixing concealed wiring for modular telephone/intercom point as per the Technical Specification No. 9.	40	No.		
10	Providing and fixing concealed wiring for 25A, Modular A.C point as per the Technical Specification No. 10.	40	No.		

11	Providing and fixing concealed wiring for 4 x 5/6A X220 Volt modular plug point with 4 Nos. SP switches for computer as per the Technical Specification No. 11.	20	No.		
12	Supply, Installation, Testing & Commissioning of 4 Way TPN (8 + 12 Module) Double Door distribution board as per the Technical specification No. 12.				
(i)	Supply	33	No.		
(ii)	Installation, Testing and commissioning	33	No.		
13	Supply & Fixing of following type of MCCB, RCCB & MCBs as per the Tech. Specification No. 13.				
(a)	6-32 A SP MCB with 10kA Breaking Capacity in 'C' Series				
(i)	Supply	391	No.		
(ii)	Fixing	391	No.		
(b)	100 A 4-Pole MCB with 10kA Breaking Capacity in 'C' Series				
(i)	Supply	33	No.		
(ii)	Fixing	33	No.		
(c)	100 Amp. 4 pole RCCB				
(i)	Supply	33	No.		
(ii)	Fixing	33	No.		
14	Supply & Fixing of revolving type Air Circulating Fan (5 star) as per the Technical Specification No. 14.				
(i)	Supply	4	No.		
(ii)	Fixing	4	No.		
15	Supply & Fixing of LED Tube Light Fixture with extruded polycarbonate of following wattage and size with complete accessories as per the Technical Specification No. 15.				
(a)	20 Watt, 1.15 Mtr. Long				
(i)	Supply	47	No.		
(ii)	Fixing	47	No.		

16	Supply & Fixing of 1200mm sweep decorative ceiling fan (5 star) with all accessories as per the Technical Specification No. 16.				
(i)	Supply	86	No.		
(ii)	Fixing	86	No.		
17	Supply of 35 Watt LED post top Lantern Light complete with 4 meter GI pole and accessories as per the Technical Specification No. 17.				
(i)	Supply	30	No.		
(ii)	Fixing	30	No.		
18	Supply & Fixing of decorative post top lantern of 36-40 Watt LED including galvanised iron pole of height 1 Mtr. and integrated junction box as per the Technical Specification No. 18.				
(i)	Supply	10	No.		
(ii)	Fixing	10	No.		
19	Supply & Fixing of LED deep down light fixture of following wattage and as per the Technical Specification No. 19.				
(a)	18/20 Watt				
(i)	Supply	316	No.		
(ii)	Fixing	316	No.		

20	Supply & Fixing of LED round surface panel light fixture of following wattage and as per the Technical Specification No. 20.				
(a)	12 Watt				
(i)	Supply	56	No.		
(ii)	Fixing	56	No.		
21	Supply & Fixing of Exhaust Fan (5 star) as per the Technical Specification No. 21.	42	No.		
22	Providing & fixing following concealed wiring for CCTV Camera from the main switch to the switch board with CAT-6 cable as per Technical Specification No. 22.	3500	Mtr.		
23	Supply & Installation of Chemical treated GI pipe-in-pipe earthing dia 25-30mm set as per relevant IS standard and as per the Technical Specification No. 23.	6	No		
24	Supply, Laying, connecting of GI Strips Connecting earth station to the equipment as per the Technical Specification No. 24.				
(a)	50x6mm thick GI				
(I)	Supply	150	Mtr.		
(II)	Laying, connecting	150	Mtr.		
(b)	25x3mm thick GI				
(I)	Supply	50	Mtr.		
(II)	Laying, connecting	50	Mtr.		
25	Providing & connecting following type earth wire for earth station to Main DB / Meter/SB as per requirement as per Technical Specification No. 25.				
(a)	8 SWG GI earthing wire.	2200	Mtr.		

26	Supply, Installation, Testing & Commissioning of 15/16 Passenger-cum-Strecher, 1088 Kg. Gearless Mc. / Auto Door Light / 3 Stop Lift as per the technical specification no. 26.	1	No.		
<b>Total Amount: Rs.</b>					

(In Words \_\_\_\_\_ )

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

Seal & Signature of Contractor

Sd/-  
Executive Engineer (Elect.)  
Deendayal Port Authority

## TECHNICAL SPECIFICATIONS

### 1. Technical Specification for Item No. 1 :

#### (i) Supply:

This includes design, supply at site, installation, testing & commissioning of outdoor pedestal type Feeder Pillar Panel, double shutter, handle with locking arrangement (Pad lock-5 lever with keys), dust, damp and vermin proof. The main distribution panel shall be fabricated from MS Sheet of 2.00 mm thick, MS angle and MS flat of suitable size.

The main panel shall be designed as per IS norms and shall be spacious for easy maintenance and frame structure shall be with MS angle of suitable size (min. 35 X 35 X 6mm) with inner sheet & inner angles & pedestal of pane made from 65 X 65 X 6mm MS angle with four legs of 1200 mm and shall be provided with following items.

1	200A, 4 Pole, 415V, 35KA, Panel Mounted MCCB	1 No.
2	50A, 4 Pole, 415V, 35KA, Panel Mounted MCCB	8 No.
3	Indicating Lamps, 230/240V, AC with in-built resistance	3 No.
4	Suitable size of Analog Ammeter & Volt meter with four portion selector switches	1 each
5	Indicating Lamp- Red, Green and blue, 230V AC with in-built resistance.	1 each
6	Three phase, 4 wire electronic energy meter	1 No.
7	Surface mounted light sensor time switch	1 No.
8	50A, Three phase Air Breaker Contactor	1 No.
9	Analog Timer for control of street light	
10	Electrolytic copper bus-bar of suitable size for phase and neutral, PVC sleeved with colour code, Danger Board tie belt MS Wall Mounted stand etc.	

All these compartments shall be mounted in the Panel by means of suitable cadmium passivated hardware. The Panel shall be complete in all respects with cable glands, lugs for incoming and outgoing cables including interconnection with PVC insulated cable single core, standard copper conductor of 650/1100V grade.

The Panel shall be tested as per IS and test certificate to be submitted along with panel at site. All the components shall be panel mounted type and hardware cadmium passivated. The Feeder Panel shall be provided with 2 Nos. GI Terminals for earthing.

The Panel shall be manufactured from type test certificate holder having Valid Type Test



Certificate of Feeder Panel of similar or above ratings. This includes all labour & material as directed by Engineer-In-Charge.

**(ii) Installation, testing & commissioning:**

The Panel shall be erected on cement concrete platform to be made by the contractor duly plastered with tapped collar of suitable size having height of 500 mm above ground level including grouting of legs in reinforced foundation of suitable design.

**2. Technical Specification for Item No. 2 :**

This includes supply at site 1.1 KV grade, 4 core aluminum conductor, XLPE insulated armoured cable of given sizes confirming to IS: 7098 (Part-I) 1985 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 3 years old. The cable shall have marking/embossing at the interval of every meter showing its progressive length. The manufacturer's routine test certificate shall produce with supply of cable at site.

**3. Technical Specification for Item No. 3:**

This includes laying of cable through following type.

**(a) Hard/Soft Soil:**

This includes laying of single length HT/LT XLPE Insulated armoured aluminium Conductor Cable of 1.1KV Grade through excavation in soft/hard soil. The trench to be excavated 0.3 Mtr. wide 0.6 Mtr. deep. The bed of 50mm of river sand shall be provided in the bottom of the excavated trench. The cable shall be laid over the bed of river sand. The cable shall be protected by providing and laying bricks both the sides lengthwise parallel to the cable & the gaps shall be filled with river sand. The cable shall be covered by keeping two bricks over the side bricks. The filling of the trench shall be done with the excavated stuff & should be watered and rammed properly to its original position. The excess excavated stuff shall be disposed of from the Site of work and spreader in low laying area as directed.

The contractor shall provide heat shrinkable straight through joint of relevant size of approved make if the laying of cable shall be more than standard drum length. This includes all labour and material as directed by Engineer-in-Charge.

**(b) In Perforated Cable tray:**

This includes laying of supplied single length HT/LT XLPE Insulated armoured aluminium Conductor Cable of 1.1KV Grade on existing wall/cement structure in perforated FRP cable tray (150 mm) to be supplied by the contractor using cable tie of clamp as desired by EIC. The G.I. The base of perforated cable tray shall be fixed rigidly on wall/cement structure at 0.50 mtr. Intervals. The work includes all materials and labour as directed by Engineer- in-charge.

**(c) In RCC/Road through HDD method:**

HT & LT XLPE Cable various sizes shall be laid underneath by using Horizontal Directional Drilling (HDD) method by putting suitable diameter Dia HDPE. HDPE pipe having strength 10Kg/sq.cm} shall in contractor scope), the contractor shall have arranged suitable tools and equipments for excavation, water for drilling, de- watering pump, HDD equipment's at their own cost. The cable shall be passed through heavy duty HDPE pipe buried at nominal minimum depth 1 mtr. or according to construction of RCC Road or as per directed by EIC. For single size/length cable, individual HDPE pipe shall be passing through a road crossing, for another cable; separate HDPE pipe shall pass through the Tunnel / trench. Laying of HDPE pipes coupled by HDPE socket only after standard length in excavated trench/tunnel and also sealing of HDPE pipe ends by suitable cap. Back filling & dressing of excavated trenches as per specification. This includes all labour and material as directed by Engineer-in- Charge.

**4. Technical Specification for Item No. 4 :**

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 2.5 / 4.0 / 6.0 sq. mm. as desired by EIC 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 pipes shall be laid during reinforcement work and 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.

**5. Technical Specification for Item No. 5:**

The item includes providing & fixing concealed wiring for Modular light/tube/bell/exhaust 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. 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 Modular switch 6A x 250V with spark shield ISI mark and to meet specifications of IS & 2 way connector at the end side. 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.

**6. Technical Specification for Item No. 6 :**

The item includes providing & fixing concealed 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. 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 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.

**7. Technical Specification for Item No. 7 :**

**(a) Full Point:**

The item includes providing & fixing concealed wiring for Modular plug point 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. 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 2 Module Modular 2 in 1 socket 6A x 250V with shutter 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 switch & Socket shall be fixed on modular plate of 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.

**(b) Half Point:**

The item includes providing & fixing half Modular point in existing switch board with Flame Retardant, 1100 Voltage grade, single core stranded copper conductor wire 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 2 Module Modular 2 in 1 socket 6A x 250V with shutter made from polycarbonate on existing modular plate. The complete work consists necessary wiring connections and earth linking with all materials and labour as directed by Engineer-in-charge.

**8. Technical Specification for Item No. 8:**

The item includes providing & fixing concealed wiring for Modular Power point with Flame Retardant, 1100 Voltage grade, single core stranded copper conductor wire of size 4.0 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 size 25 mm Diameter of Medium Mechanical Strength (MMS) type and other accessories such as Tee, junction box, inspection bends, elbow etc. of approved make. 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 16A x 250V socket with shutter with ISI mark, 1 module SP switch 16A x 250V with spark shield with ISI mark & 1 module 10/16A fuse unit on suitable size of PVC unbreakable concealed box with 4 module modular plate. The PVC unbreakable concealed box shall be embedded properly in the wall and the fuse, switch & Socket shall be fixed on 4-module modular plate and modular plate 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.

**9. Technical Specification for Item No. 9 :**

The item includes providing & fixing concealed wiring for Modular telephone/intercom point from distribution box of telephone/intercom placed in the lobby to the room as directed by Engineer-in-Charge. The telephone/intercom wiring shall be done with 0.5 Sq.mm. x 2 Pair PVC insulated & PVC sheathed annealed tinned copper conductor 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. 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 1 Module 2-line telephone jack with shutter 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 1 Module 2 line telephone jack shall be fixed on modular plate of required modules on embedded box. The complete work consists necessary wiring connections at both the ends with all materials and labour as directed by Engineer-in-charge.

**10. Technical Specification for Item No. 10 :**

This includes providing & fixing concealed wiring for A.C point with Flame Retardant, 1100 Voltage grade, single core stranded copper conductor wire of size 4.0 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 with IS: of size 25 mm Diameter of Medium Mechanical Strength (MMS) type and other accessories such as Tee, junction box, inspection bends, elbow etc. of approved make. 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 25A x 250V socket with ISI mark & 2 module SP switch 25A x 250V with spark shield with ISI mark and to meet specifications of IS, on suitable size of PVC unbreakable concealed 2 Nos 2 modular boxes. One box to be fixed on top of dealing for socket and one box to be fixed at 1.5 meter height with switch. The PVC unbreakable concealed box shall be embedded properly in the wall and the fuse, switch & Socket shall be fixed on 4-module modular plate and modular plate shall be fixed on the embedded box.

Also, the separate 2 Modular switches to be fitted on the outside of the room to control the lighting circuit of individual switchboard from outside, the work also consists necessary wiring connections and earth linking at both the ends with all materials and labour as directed by Engineer-in-charge.

**11. Technical Specification for Item No. 11 :**

The item includes providing & fixing concealed wiring for Modular plug point for computers (With 2 module, 4nos. 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 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. 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 modules, 4nos. 2 in 1 socket 6A x 250V & 4 nos. 1 module SP switch 6A x 250V with spark shield with ISI mark on suitable size of PVC unbreakable concealed box with 12 modules modular plate. The PVC unbreakable concealed box shall be embedded properly in the wall 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.

**12. Technical Specification for Item No. 12 :**

**(i) Supply:**

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
- IP degree of protection IP43
- 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.

**(ii) Installation, testing & commissioning:**

This includes installation, testing & 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.

**13. Technical Specification for Item No. 13 :**

**(i) Supply:**

- (a)** 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  $\mu$ s & 2KV (50Hz.).
- (b)** This includes supply of 100 Amp., 4 Pole TPN MCB as per following technical specifications.
- 1) Poles description/ Number of protected poles: 4P/4
  - 2) Rated current : 100 Amp. At 30 C
  - 3) Network type : AC
  - 4) Trip unit technology: Thermal-magnetic
  - 5) Curve code: C
  - 6) Breaking capacity: 10000 A Icon at 230...400 V AC 50/60 Hz conforming to EN/IEC 60898-1
  - 7) Suitability for isolation : Yes conforming to IEC 60947-2
  - 8) Rated operational voltage : 380...415 V AC, 50 Hz/440 V 50 Hz
  - 9) Magnetic tripping limit: 5...10 x In

- 10) Rated insulation voltage: 500 V AC 50 Hz conforming to EN/IEC 60947-2
- 11) Rated impulse withstand voltage: 6 kV conforming to EN/IEC 60947-2
- 12) Contact position indicator: Yes
- 13) Control type: Toggle
- 14) Mounting mode: Clip-on
- 15) Mounting support: DIN Rail

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

**(c)** This includes supply of 100 Amp., 4 Pole RCCB as per following technical specifications.

- 1) Poles description : 4P
- 2) [In] rated current : 100 Amp.
- 3) Network type: AC
- 4) Earth-leakage sensitivity: 40 Ma
- 5) Earth-leakage protection time delay: Instantaneous
- 6) Earth-leakage protection class : Type AC
- 7) Network frequency: 50 Hz
- 8) Rated operational voltage : 380...415 V AC, 50 Hz
- 9) Residual current tripping technology: Voltage independent
- 10) Rated breaking and making capacity: Idm 1500 A, Im 1500 A
- 11) Rated conditional short-circuit current: 10 kA
- 12) Rated insulation voltage: 500 V
- 13) Rated impulse withstand voltage: 6 kV
- 14) Surge current: 250 A
- 15) Contact position indicator: Yes
- 16) Control type: Toggle
- 17) Mounting mode: Clip-on
- 18) Mounting support: DIN Rail

**(ii) Fixing:**

**(a)** This includes fixing & commissioning of supplied 6-32 Amp SP MCB in above supplied double door DB on wall / structure. The MCB shall be fixed on DIN Rail provided in existing DB. This includes necessary 1 $\square$  wiring, connections, distribution & earth linking of DB with all material, labour tools & tackles as directed by Engineer-In-charge.

**(b)** This includes fixing & commissioning of supplied 4 Pole MCB in supplied double door DB on wall / structure. The MCCB shall be fixed on DIN Rail provided in existing DB. This

includes necessary 3 $\phi$  wiring, connections, distribution & earth linking of DB with all material, labour tools & tackles as directed by Engineer-In-charge.

- (c) This includes fixing & commissioning of supplied 4 Pole 100 Amp RCCB/100 Amp TPN MCB in supplied double door DB on wall / structure. The MCB shall be fixed on DIN Rail provided in existing DB. This includes necessary 3 $\phi$  wiring, connections, distribution & earth linking of DB with all material, labour tools & tackles as directed by Engineer-In-charge.

**14. Technical Specification for Item No. 14:**

**(i) Supply:**

This includes supply of heavy duty wall mounting air circulator fan of size 30 inch (750mm) sweep 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 with in-built/separate speed regulator. The guards shall be powder coated & blades of fan shall be Aluminum alloy one-piece powder coated. The fan shall be suitable for Vertical adjustment from 22° to 45°.

**(ii) Fixing:**

This includes fixing & commissioning of supplied air circulator 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 & necessary connections & earth linking with regulator (in case of separate regulator) with all material and labour and as directed by Engineer-In-charge.

**15. Technical Specification for Item No. 15:**

**(I) Supply:**

- (a) This includes supply at site 1.15 Mtr. Long, LED Tube light fixture of 20-22 Watt. The tube light shall be operating on single phase 230V, 50Hz AC supply. The tube light fixture shall be decorative ultra slim round profile LED lighting fixture with extruded polycarbonate and shall be have the facility of clamping the tube rod on fixed clip (on the wall) The LED rod shall be fluctuation proof and shall provide with in-built driver.

**(II) Fixing:**

- (a) This includes fixing and commissioning of supplied LED tube light fixture on wall/ceiling at suitable height on cemented wooden gutties as directed and connection with 3 core flexible copper cable from nearest source of supply/ceiling rose & necessary connection with all material and labour as directed by Engineer-in-Charge.



## 16. Technical Specification for Item No. 16:

### (i) Supply:

This includes supply of 1200 mm sweep decorative ceiling fan (5 star) fitted with heavy duty grease filled double ball bearing that ensures noiseless performance and long lasting smoother life of fan suitable upto 250V AC supply. The Fan blades aerodynamically balanced to ensure maximum air delivery at lower power consumption & the blades shall be made of 'heavy gauge' aluminum sheet so as to retain the blade's angle over a longer period. The Fan motor made of superior grade copper wire and impregnated in special varnish for long life operation. The motor shall be totally enclosed and low-loss-silicon steel stampings ensure minimum power consumption with high optimum output. The Fan coated with a special anticorrosive enamel paint that makes them rust free and ensures a classic appearance and longer life. The supplied fan conforming to ISI specifications. The fan shall be supplied all accessories such as down rod 30/60/120cm long, PVC Bobbin, Stainless Steel Nut Bolt with cotter pin, capacitor etc. of approved make and as per IS specification as directed by Engineer-in-charge.

### Fixing:

This includes fixing & commissioning of supplied ceiling fan with all accessories in existing hook or by fixing of heavy duty round base hook of with pull out load 75 Kg & Jurk /vibration Load 40 Kg. This also including necessary wiring and connection from nearest point / Ceiling rose through PVC flexible copper conductor wire and earth linking etc. with all material and labour as directed by Engineer-in-charge.

## 17. Technical Specification for Item No. 17 :

### (i) Supply:

This includes supply of Aluminium pressure die-casting with integrated pole top with Polyester powder coated 35 Watt LED post top Lantern Light complete with 4 meter GI pole and accessories. The light shall be Suitable for installation up to 6 m height max.

- 1) Initial luminous flux: 4000 lm
- 2) Mech. impact protection code: IK10
- 3) Ingress protection code: IP66
- 4) Surge Protection (Common/Differential): Surge protection level until 4 kV
- 5) Dimmable: Yes
- 6) System Power : 35 Watt
- 7) Luminaire light beam spread: 120°

- 8) Optical cover/lens type: UV stabilized Polycarbonate cover
  - 9) Driver included: Yes
  - 10) Flammability mark : F
  - 11) Optic type: Distribution symmetrical
  - 12) Init. Color Rendering Index:  $\geq 70$
  - 13) Initial luminous flux: 4000 lm
  - 14) Serviceability: Class B
  - 15) Mounting On the pole (Dia. 60mm) suitable for cylindrical pole
  - 16) CCT: 4000 K
  - 17) CRI  $> 80$
  - 18) Efficacy of  $> 115$  lm/w
  - 19) Driver specs : 120-277 V, Surge 4 KV, Auto restart, high cut off ( $> 325$ V), Auto Restart, THD  $< 10\%$  at full load
- Make: Phillips

**(ii) Fixing:**

This includes complete erection fixing & commissioning of supplied 35 Watt LED post top Lantern Light along with 4 meter GI Poles, with all supporting material, for mounting 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. Necessary civil foundation/Civil Part work as directed by Engineer-In-Charge, for erection of pole will be in the scope of bidder.

The cable shall be passed through HDPE pipe of suitable size.

**18. Technical Specification for Item No. 18 :**

**(i) Supply:**

This includes supply of outdoor type decorative post top ring shaped lantern of 36-40 Watt LED including galvanized iron pole of height 1 Mtr. and integrated junction box. The light fixture shall be aluminium housing with corrosion resistant powder coated and UV stabilized vandal proof milky diffuser. The LED flood light fixture shall be with following technical specifications.

(1) Wattage : 36-40 Watt.

- (2) Dimension : 384 X 313 X 75 mm
- (3) Body Colour : Grey / white
- (4) CCT : 4000K
- (5) CRI :  $\geq 80$
- (6) Luminous Flux : 65-70 LM/W
- (7) Beam Angle :  $110^{\circ}$
- (8) IP : IP65 (Make: Phillips)

**(ii) Fixing:**

This includes fixing and commissioning of supplied LED post top ring shaped lantern with iron pole of 1 Mtr. Height at Entrance Passage including required civil work and connection with 3 core flexible copper cable from nearest source of supply/ceiling rose & necessary connection with all material and labour as directed by Engineer-in-Charge.

**19. Technical Specification for Item No. 19:**

**(i) Supply:**

This includes supply of LED round deep down light luminaries of 18-20 Watt with following technical specifications.

- (1) Wattage : 18-20 Watt.
- (2) Dimension : 155-175 X 65 mm (for 18 & 24 Watt)
- (3) Cut Size :  $\varnothing 145-165$  mm (for 18 & 24 Watt)
- (4) LED Chip : Osram
- (5) Material : Aluminium
- (6) Body Colour : White
- (7) CCT : 6000K
- (8) CRI :  $\geq 80$
- (9) Luminous Flux : 1710-2280 LM/W
- (10) Beam Angle :  $120^{\circ}$
- (11) IP : IP20

**(ii) Fixing:**

This includes fixing & commissioning of supplied LED round deep down light luminaries of 18-20 Watt 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.

**20. Technical Specification for Item No. 20:**

**(i) Supply:**

**(a) 12 Watt:** This includes supply of 12 Watt, 6500K recess cum surface mounted LED Panel light with following technical specifications.

- (1) Wattage : 12 Watt.
- (2) CCT : 6500 K
- (3) Fixture Shape : Round
- (4) Material : Polycarbonate
- (5) Driver : Built-In
- (6) Mounting Arrangement : Spring clip / Surface Clamp
- (7) Light Effect : Cool Day White
- (8) Diffuser Transparency : Opal Finish
- (9) CRI :  $\geq 80$
- (10) Lumen : 900 lm
- (11) IP : IP20

Make: Havells, Phillips.

**(ii) Fixing:**

This includes fixing & commissioning of supplied 12 Watt recess cum surface mounted LED Panel light on existing false ceiling with spring clip by making & providing necessary cutout of fitting dimensions or on surface with surface clamp and required supporting material as directed. The 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.

**21. Technical Specification for Item No. 21 :**

**(i) Supply:**

This includes supply of plastic body 150mm to 250mm sweep exhaust fan with gravity shutter & robust motor with following technical specifications.

- (1) Rated Speed : 1200 to 1350 RPM
- (2) Noice Level : 34 to 44 dB
- (3) Power Consumption : 22 to 35 Watt
- (4) Blade Finish : Opaque
- (5) Body Colour : White
- (6) Finish : Glossy
- (7) No of blades : 6

**(ii) Fixing:**

This includes fixing & commissioning of supplied exhaust fan 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.

**22. Technical Specification for Item No. 22:**

The item includes providing & fixing concealed wiring for CAT-6 Cable for CCTV Camera main DBs to individual camera location of various indoor & outdoor locations to be laid through PVC Round Pipe of suitable of Medium Mechanical Strength (MMS) type and other accessories such as Tee, junction box, bends, etc. of approved make. 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.

**23. Technical Specification for Item No. 23:**

This includes preparation of earth station with GI treated back filled compound 25-30 mm dia. Pipe In Pipe GI, 3 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.

**24. Technical Specification for Item No. 24:**

The works include providing & fixing the following size earth strip from earth station to equipment / Main DB or as per site requirement. 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.

- (a) 50 X 6mm, Hot DIP GI strips, having minimum 80 Micron galvanized coating.
- (b) 25 X 3mm, Hot DIP GI strips, having minimum 80 Micron galvanized coating.

**25. Technical Specification for Item No. 25:**

This includes supply, Laying & connecting, 8 SWG GI earthing wire , from DB / Meter /Switch to earth station by providing & fixing suitable Dia Medium duty PVC conduit pipe in concealed manner, the works include 8 SWG earth wire will be pass through conduit pipe. The earth wire shall be connected using cooper nut bolts rigidly or as directed by EIC.

**26. Technical Specification for Item No. 26:**

This includes supply, installation, testing and commissioning of Auto Door/Gearless Stretcher-cum-Passenger lift. The details are as under :-

Type	–	Stretcher-cum-Passenger Lift (Gearless)
Passenger	-	15-16 Passenger-cum-Stretcher
Load/Capacity	-	1088 (in Kgs.)
Speed	-	@ Single Speed 1 Meter per second
Control	-	High Performance simplex full collective control system.
Drive	-	AC VVVF drive
Travel	-	G + 2 Floors, about 7/8 meters.
Stops & Openings	-	3 Stops, 3 Opening
Car area inside	-	2000 mm wide X 1300 mm deep
Car enclosure	-	SS hairline finish car, anti skid PVC flooring on heavy duty MS platform, decorative false ceiling with CFL/LED lighting, blower/rotor fan.
Clear opening	-	1000 mm wide X 2000 mm height
Power Supply	-	400 Volts, AC, 3 Phase 420 volt, 50 Hz.

Light Supply : AC 1 phase 230 volts, 50 Hz.

Control/Operation	-	Micro controlled based full collective integrated variable voltage variable frequency drive (VVVF Drive) controller. With ARD System, without over load non start system (OLNS).
Machine	-	Gearless Machine
Make	-	Schinder, Thyssenkrupp, Orbis, Otis, Omega Elevators

Notes :-

- (i) Car size and door size may be varied as per site requirement.
- (ii) Direction arrow with digital position indicator in car and at all landings.
- (iii) Push buttons with illuminated call registration light in car and all landings.
- (iv) Car emergency light, emergency alarm and emergency stop operation.  
Intercom communication system from car to ground floor. The quoted rate also includes telephone system / Instruction Plate in car.
- (v) Voice announcing system for car.
- (vi) Full length infrared door curtain safety for auto doors.
- (vii) Overload warning device.
- (viii) Automatic rescue device in case of power failure or emergency (ARD).
- (ix) Fireman switch safety device as per elevator and escalator act.
- (x) The lift shall work on microprocessor-based control system with self-diagnostic features, site programming, etc. to suit changing needs of the user.
- (xi) The lift shall be silent in operation & shall have smooth and controlled acceleration and deceleration with levelling accuracy of  $\pm 5$  mm.
- (xii) Transparent type car
- (xiii) Emergency button with blinking facility for emergency opening of doors.

Sd/-

Seal & Signature of Contractor

Executive Engineer (E)  
Deendayal Port Authority

**Approved Make List for Electrical Items**

Sr. No.	Description	Recommended Makes
1	HT 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/VOLTAMP/ 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/ UNISTAR/KEI/FINOLEX/HAVELS
6	LT XLPE CABLES	POLYCAB/TORRENT/RPG ASIAN/ / RALLISON/PRIMECAB/ HAVELLS/ UNISTAR/AVOCAB / 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	SIEMENS/HAGER L&T/ABB
	LT DISTRIBUTION PANELS	
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/AMPA RE 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	RR KABEL / KEI / POLYCAB/MILEX/GUJCAB/ 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 / SIMENS.
27	PVC CONDUIT / OVAL CONDUIT & CASSING CAPPING AND ACCESSORIES	PRECISION/VULCAN/FINOLEX/ GARWARE/ PRESTOPLAST/ 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/C&S
31a	LED LUMINARIES	Philips// Bajaj/Wipro/CG/Surya/Pyrotech/Syska/Nessa/C&S having surge Protection $\geq 10KV$ for fittings & internal Surge Protection for Driver of $\geq 4KV$ , LED Chip only OSRAM/CREE/Philips Lumileds/Citizen/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	EXHUAST FANS	BAJAJ/ORIENT/USHA/CROMPTON GREAVES / ALMONARD/GEC
35	HEAVY DUTY INDUSTRIAL WALL MOUNTING FANS	BAJAJ/ORIENT/USHA/CROMPTON GREAVES / ALMONARD/GEC or its equivalent
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	CUMMINS/GREAVES/KIRLOSKAR/ CATERPILLAR /ASHOK LEYLAND /VOLVO
	B) ALTERNATOR	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
<p>Note: In case of supply of Make of material which is neither available in the DPA approved, the said material should be supplied as per the Make decided by EIC for which written intimation will be given to the contractor.</p> <p>Before procurement of material, the Make of the material should be approved by EIC in writing.</p>		

Sd/-  
Executive Engineer (E)  
Deendayal Port Authority

Seal & Signature of Contractor