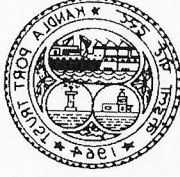
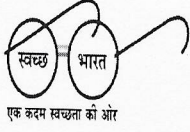




DEENDAYAL PORT AUTHORITY

ISO 9001-2008 & 14001:2004 Certified



Office of the
Executive Engineer (E)
P & C Building,
New Kandla, Kachchh
M.No: 9825227048
www.deendayalport.gov.in

No. EL/AC/EOI/Re-Wiring of G'puri Colony/

Dated : 30.05.2024

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 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)

To,

Sub: - EOI for residential re-wiring work of Gopalpuri Colony.

Sir,

You are requested to submit Expression of Interest for the work of "Residential re-wiring work of Gopalpuri Colony.

The Expression of Interest should reach to this office on or before 14.06.2024 or soft copy of EOI also acceptable through e-mail id xenedpt@gmail.com & deepak.hazra@deendayalport.gov.in

Yours faithfully,

Sd/-

Executive Engineer (Elect.)
Deendayal Port Authority

SCHEDULE-B

ELECTRICAL DIVISION

Name of Work :- Residential re-wiring work of Gopalpuri Colony

S/N	Description	Qty.	Unit	Rate (In Rs.)	Amount (In Rs.)
1	Supply of 11/0.433, 50 Hz., 250 KVA outdoor type 3-star rating distribution transformer, complete with its accessories & protective, measuring devices and as per technical specification no. 1.	1	No.		
2	Supply of 11/0.433, 50 Hz., 500 KVA indoor type 3-star rating distribution transformer, complete with its accessories & protective, measuring devices and as per technical specification no. 2.	2	Nos.		
3	Installation, Testing and Commissioning of 1 no. 250 KVA outdoor type distribution transformer and 2 nos. 500 KVA indoor type distribution transformer as per technical specification no. 3.	3	Nos.		
4	Supply, Installation, Testing and Commissioning of lighting arrestor with its accessories and earthing for buildings as per Technical Specification No. 4.	30	Nos.		

S/N	Description	Qty.	Unit	Rate (In Rs.)	Amount (In Rs.)
5	Supply, Installation, testing & commissioning of 6 mtr. High octagonal GI pole with single arm of 2000 mm including all accessories and lighting fixtures (60 watt) for walkway illumination and as per technical specification no. 5 (a) Supply (b) Installation, testing and commissioning.	81 81	Nos. Nos.		
6	Providing & fixing following concealed wiring for Three/Single phase sub-circuit from the main switch /meter/DBs /MCBs to the switch board as per Technical Specification No. 6. (a) Three Phase – 2944 Mtrs. (b) Single Phase – <u>4844</u> Mtrs. Total <u>7788</u> Mtrs.	7788	Mtrs.		
7	Providing & fixing following Surface wiring for Three/Single phase sub-circuit from the main switch /meter/DBs /MCBs to the switch board as per Technical Specification No. 7 (a) Three Phase – 4580 Mtrs. (b) Single Phase – <u>7584</u> Mtrs. Total <u>12164</u> Mtrs.	12164	Mtrs.		
8	Providing and Fixing concealed wiring for light/tube/bell point with PVC insulated single core standard 1.5 Sq.mm. copper conductor wire as per Technical Specification No. 8	5100	Nos.		

S/N	Description	Qty.	Unit	Rate (In Rs.)	Amount (In Rs.)
9	Providing and Fixing Surface wiring for light/tube/bell point with PVC insulated single core standard 1.5 Sq.mm. copper conductor wire as per Technical Specification No. 9	9186	Nos.		
10	Providing and Fixing concealed wiring for Fan point with PVC insulated single core standard 1.5 Sq.mm. copper conductor wire as per Technical Specification No. 10	708	Nos.		
11	Providing and Fixing Surface wiring for Fan point with PVC insulated single core standard 1.5 Sq.mm. copper conductor wire as per Technical Specification No. 11	1299	Nos.		
12	Providing and fixing concealed wiring for 6A X250 Volt. Full plug point. Half Plug Point. as per Technical Specification No. 12.	1341 2147	Nos. Nos.		
13	Providing and fixing surface wiring for 6A X250 Volt. Full plug point. Half Plug Point. as per Technical Specification No. 13	2039 4521	Nos. Nos.		

S/N	Description	Qty.	Unit	Rate (In Rs.)	Amount (In Rs.)
14	Supply & fixing of 16 A, 5 in 1 modular type switch socket as per Technical Specification No. 14	573	Nos.		
15	Supply & fixing of 16 A 5 in 1 combined Modular type Switch Socket complete with non-metallic inner & outer plates, suitable metal boxes, etc., with all necessary accessories as per Technical Specification No. 14	676	Nos.		
16	Supply and Fixing of 16 Amp. Modular type Switch socket combined with box as per Technical Specification No. 14	660	Nos.		
17	Providing and fixing Motor point 16 Amp. X 230 V individual switch & socket as per Technical Specification No. 14	411	Nos.		
18	Providing and fixing washing machine point 16 A 5 in 1 switch socket combined with box as per Technical Specification No. 14	573	Nos.		
19	Providing and fixing concealed wiring, for AC Point 25-32A X 230 V with individual Switch & Socket as per Technical Specification No. 15	546	Nos.		
20	Providing and fixing surface wiring, for AC Point 25-32A X 230 V with individual Switch & Socket as per Technical Specification No. 15	836	Nos.		

S/N	Description	Qty.	Unit	Rate (In Rs.)	Amount (In Rs.)
21	Supply & fixing of 20/30 Watt LED Bulk Head Light fixture with all accessories as per Technical Specification No. 16.				
(a)	Supply	364	Nos.		
(b)	Fixing	364	Nos.		
22	Providing and fixing following type of MCBs of approved make in distribution board with all necessary wiring and connection as per technical specification no. 17.				
(I)	10 Amp., 230/250 V SP MCB				
(a)	Supply	2476	Nos.		
(b)	Fixing	2476	Nos.		
(II)	20 Amp., 230/250 V DP MCB				
(a)	Supply	2544	Nos.		
(b)	Fixing	2544	Nos.		
(III)	32 Amp., 230/250 V DP MCB				
(a)	Supply	439	Nos.		
(b)	Fixing	439	Nos.		
(IV)	40 Amp. 415/440 V 4 P (TPN)				
(a)	Supply	134	Nos.		
(b)	Fixing	134	Nos.		
23	25 Amp. DP RCCB				
(a)	Supply	439	Nos.		
(b)	Fixing	439	Nos.		
	As per technical specification no. 18.				
24	40 Amp. 4 pole RCCB				
(a)	Supply	134	Nos.		
(b)	Fixing	134	Nos.		
	As per technical specification no. 19.				

S/N	Description	Qty.	Unit	Rate (In Rs.)	Amount (In Rs.)
25	Supply at site 4 Core X 16 sq.mm. cable as per technical specification no. 20.	4300	Mtrs.		
26	Preparation earthing station, chemical treated back filled compound earthing system with Pipe-In-Pipe 50 mm Dia GI type 2 Mtr Depth, Maintenance free. as per Technical Specification No. 21	210	Nos		
27	Providing & connecting following type earth wire for earth station to Main DB / Meter/SB as per requirement as per technical specification no. 22 a) 8 SWG GI earthing wire.	4500	Mtrs.		
28	Supply and fixing of 20 Watt Gate light fixture with all accessories as per technical specification no. 23.	208	Nos.		
29	Supply & fixing of 20-30 Watt LED Bulk Head Light fixture with all accessories as per Technical Specification No. 24.	72	Nos.		
30	Dismantling, removal and shifting of existing deteriorated pole including its accessories as per technical specification No. 25.	81	Nos.		

S/N	Description	Qty.	Unit	Rate (In Rs.)	Amount (In Rs.)
31	Supply & fixing of Modular type 6A, 1 way, Door Bell Switch along with its plate. Same may be approved before procurement.	573	Nos.		
32	6A 1-way modular type Switches along with its plate. Same may be approved before procurement.	20428	Nos.		
33	6 A 5 Pin modular Socket along with its plate. Same may be approved before procurement.	6668	Nos.		
34	Angle Holder. Same may be approved before procurement.	7303	Nos.		
35	Ceiling Rose. Same may be approved before procurement.	6410	Nos.		
36	Supply and fixing of Modular type, 5 speed electronic fan regulator 100 W rating with all necessary accessories as required. Same may be approved before procurement.	2007	Nos.		
37	Ding Dong Bell 250 V AC. Same may be approved before procurement.	573	Nos.		

S/N	Description	Qty.	Unit	Rate (In Rs.)	Amount (In Rs.)
38	TV Point Wiring SITC of Modular type TV signal single socket complete with non-metallic inner & outer plates, suitable metal boxes, etc. with all necessary accessories as required.	591	Nos.		
39	5 Pin 5/6 Amp. Modular type Socket & Switch (combined unit) complete with non-metallic inner & outer plates, suitable metal boxes, etc., with all necessary accessories as required. Same may be approved before procurement.	1527	Nos.		
40	Supply & fixing of 6 A, 5 in 1 modular type switch socket for RO Point. Same may be approved before procurement.	573	Nos.		
41	Supply & fixing of 6 A, 5 in 1 modular type switch socket for Mixer Grinder Point. Same may be approved before procurement.	573	Nos.		
42	Metal Modular sheets 4 to 14 size Models as per site requirement. (a) 4" X 4" – 595 nos. (b) 7" X 4" – 266 nos. (c) 6" X 6" – 43 nos. (d) 8" X 10" – 173 nos. (e) 10" X 12" – 487 nos. (f) 12" X 14" – 08 nos.	1572	Nos.		

43	Modular type Switch Board 4 to 12 size Model as per site requirement. (a) 4" X 4" – 1807 nos. (b) 7" X 4" – 562 nos. (c) 7" X 6" – 158 nos. (d) 8" X 10" – 775 nos. (e) 10" X 12" – 338 nos.	3640	Nos.		
				TOTAL	
(Rupees)

**Seal & Signature
Contractor**

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

Scope of work & Technical specification

(1) Technical Specification for Item No. {1} :

The work include supply at site, Oil cooled Distribution transformer as per IS: 2026 of voltage Ratio 11/0.433 KV, 50 Hz., AC 250 KVA outdoor type with off load tap changer. The technical details are as below:

Sr. No.	Description	Particulars
1	Type of Transformer	3 Phase Oil filled suitable for outdoor Installations.
2	Normal Continuous rating(KVA)	250 KVA
3	No Load Voltage Ratio	11/0.433 KV
4	Highest Voltage	12KV
5	Winding material	Copper
6	Connection a)High voltage	Delta
	Low voltage	Star
7	Vector Group	Dyn 11
8	Reference Standard	IS : 2026
9	Tapping on HV side for giving voltage variation of HV	Standard taps
10	Type of Tap changer	Off load tap changer
11	Temperature rise of Oil/WDG by thermometer/Resistance method over specified ambient temp of 50°C. at principal tap	50/55°C
12	Type of cooling	Oil Natural Air Natural
13	No load losses at 75°C at normal tap	(MAX) or as per standard losses
14	Full load losses at 75°C at normal tap	(MAX) or as per standard losses
16	Impedance at rated current at 75°C at normal tap.	As per standard tolerance)
17	Paint	PU Paint as per IS 5
18	Hardware above M10 size	Hot dipped Galvanized material
19	Hardware below M10 size	Stainless steel 304
20	All Valve material	Gun metals (Brass Material)
21	Epoxy Bushing	As per IS standard
22	Porcelain Bushing	GE make
23	Erection of Transformer	In contractor scope
24	Commissioning of Transformer	In contractor scope
25	Oil filtration	In contractor scope
26	HV and LV Cable Connection	In contractor scope
27	Testing of transformer before charging	In contractor scope
28	Charging of transformer	In contractor scope

29	List of fittings/Accessories	HV Bushing with metal parts, LV Bushing with metal parts Additional Neutral bushing with metal parts. Prismatic Oil level gauge Oil temperature Indicator with alarm and trip contact Winding temperature Indicator with alarm & trip contact Flat rollers Inspection covers Buchholzs relay with alarm & trip contact and 1Noshut off valve Marshalling box Radiator valves Conservator with air release plug Radiators Explosion vent with double diaphragm Earthing terminals Silica gel breather (Flange) Thermometer pockets Lifting lugs Jacking pads Bottom drain cum filter valve 1 No. Top filter valve 1 No. Oil surge relay etc.
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This also includes transportation, loading unloading of transformer at site and from manufacturing point with first fill of oil in same. Apart from same, technical test of transformer if required will be conduct at the manufacturer's point as per standard test.

(2) Technical Specification for Item No. {2} :

The work include supply at site Oil cooled Distribution transformer as per IS: 2026 of voltage Ratio 11/0.433 KV, 50 Hz., AC 500 KVA indoor type with off load tap changer. The technical details are as below:

S/N	Description	Particulars
1	Type of Transformer	3 Phase Oil filled suitable for indoor Inst.
2	Normal Continuous rating(KVA)	500 KVA
3	No Load Voltage Ratio	11/0.433 KV
4	Highest Voltage	12KV
5	Winding material	Copper
6	Connection a)High voltage	Delta
	Low voltage	Star
7	Vector Group	Dyn 11
8	Reference Standard	IS : 2026

9	Tapping on HV side for giving voltage variation of HV	Standard taps
10	Type of Tap changer	Off load tap changer
11	Temperature rise of Oil/WDG by thermometer/Resistance method over specified ambient temp of 50°C. at principal tap	50/55°C
12	Type of cooling	Oil Natural Air Natural
13	No load losses at 75°C at normal tap	(MAX) or as per standard losses
14	Full load losses at 75°C at normal tap	(MAX) or as per standard losses
16	Impedance at rated current at 75°C at normal tap.	As per standard tolerance)
17	Paint	PU Paint as per IS 5
18	Hardware above M10 size	Hot dipped Galvanized material
19	Hardware below M10 size	Stainless steel 304
20	All Valve material	Gun metals (Brass Material)
21	Epoxy Bushing	As per IS standard
22	Porcelain Bushing	GE make
23	Erection of Transformer	In contractor scope
24	Commissioning of Transformer	In contractor scope
25	Oil filtration	In contractor scope
26	HV and LV Cable Connection	In contractor scope
27	Testing of transformer before charging	In contractor scope
28	Charging of transformer	In contractor scope
29	List of fittings/Accessories	<p>HV Bushing with metal parts, LV Bushing with metal parts Additional Neutral bushing with metal parts. Prismatic Oil level gauge Oil temperature Indicator with alarm and trip contact Winding temperature Indicator with alarm & trip contact Flat rollers Inspection covers Buchholzs relay with alarm & trip contact and 1Noshut off valve Marshalling box Radiator valves Conservator with air release plug Radiators Explosion vent with double diaphragm Earthing terminals Silica gel breather (Flange) Thermometer pockets Lifting lugs</p>

		Jacking pads Bottom drain cum filter valve 1 No. Top filter valve 1 No. Oil surge relay etc.
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This also includes transportation, loading unloading of transformer at site and from manufacturing point with first fill of oil in same. Apart from same, technical test of transformer if required will be conduct at the manufacturer's point as per standard test.

(3) Technical Specification for Item No. {3} :

Installation, Testing and Commissioning of 1 no. 250 KVA outdoor type transformer and 2 nos. 500 KVA indoor type transformer at various locations.

Installation for item no. 1 & 2 is as under:-

Installation work includes removal of existing transformer from the site safely and same should be shifted safely as directed by EIC. The hydra & tractor trolley is to be arranged by the contractor itself and for which no extra amount will be paid. Thereafter new transformer is to be installed on the existing platform. This also includes end termination of 2 no. HT cable and lugging, crimping, gladding to LT existing cable. 2 nos. neutral grounding of copper flat 50 X 6 with conventional earth station is also in the scope of contractor. Similarly, 2 nos. body earthing alongwith 50 X 6 GI flat with conventional earthing is also to be done at site, thereafter releasing the air, oil level of transformer to be checked alongwith breather and thereafter transformer is to be completed with control wiring of winding temperature and Buchholzs relay with the existing LT Panel if required annunciation display is to be installed by the contractor with complete wiring for alarm and trip of 250 and 500 KVA transformer respectively is also in the scope of contractor.

This also includes soak pit tank as per IS standard dimensions alongwith its drainage pipe for 500 KVA transformer.

(4) Technical Specification for Item No. {4} :

The work includes supply, installation, testing and commissioning of cloud LA as per given specifications.

Protection level 30 m Level II

However, if any minor change is required same can be clarified in pre-bid meeting. This includes installation of LA as per site situation. The connected size is 25 X 6 mm width and same is to be fixed on wall with proper insulator between wall and GI flat. The earth pit of LA shall be 5 mtr. Away

from the building and same is to be connected and trial test with necessary tools is to be done in presence of EIC. All the required materials and ancillary items in the scope of contractor and approved drawing is to be taken before commencing the work.

(5) Technical Specification for Item No. {5} :

- (a) This includes Supply of 6 mtr GI Octagonal Pole of approved make top dia. 70 mm, Bottom dia. 155 mm and base plate 16 mm thick having 4 nos. of holes for foundation bolt in which 4 Nos. of J type 300 mm foundation bolts long (Tension bolt) and 16 mm dia having 2 nos. hexagonal nuts and 1 No. spring and flat washers in each, with Single /Double arm bracket 1000 mm length for mounting the light fittings. The pole shall be GI hot dipped galvanized with 80 microns and above coating. This also includes supply & Fixing of 60 W cool white LED street light fitting with IP 65 and 1 no. 10 amps MCB single pole in its pocket is to be provided of approved make with each pole.

The rate shall inclusive of transportation and unloading at site of work etc.

- (b) This includes installation, testing & commissioning of each pole on PCC foundation of 1:2:4 ratio of cement, grit of 10 to 15 mm and river sand including fixing of 300 mm foundation bolts (4 nos.), excavation & back filling and Required T&P complete in all respect. After the erection of pole fixing the lighting fixtures and its aiming is in the scope of the contractor with complete wiring, cable termination and fixing of MCBs in each pole.

The work includes all labour & material, tools & tackles, transportation upto site, loading & unloading and whatever earth moving equipments are required to complete the job will bear by the contractor and as directed by Engineer-In-Charge.

(6) Technical Specification for Item No. {6} :

The item includes providing & fixing concealed wiring for three/single phase sub-circuit from the existing 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 in existing concealed PVC Pipe, by removing old wire by suitable tools & same insert the new wiring for sub circuit. However, on ceilings are not permitted for breaking and the existing ceiling pipe is to be re-used for new work wiring.

The sub circuit will be provide through PVC Round Pipe with IS: 9537 (Part-III) 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. The proper size of grew shall be prepared by contractor on wall as case may be & the conduit pipe shall be laid through prepared grew and incase of new construction the pipes shall be laid during reinforcement work. After laying of pipe the grew shall be closed with mixture of cement &

sand and to match with existing surface of wall. 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.

(7) Technical Specification for Item No. {7}:

The item includes providing & fixing surface wiring for three/single phase sub-circuit from the existing 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 heavy duty flat casing Capping Strip (32 mm size) shall be fixed rigidly on wall/ceiling with suitable size heavy duty PVC saddle set with base, clamp & screw at the interval of 0.5 meter other accessories such as Tee, junction box, inspection bends, elbow etc. of approved make as directed by Engineer-in-Charge. 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.

(8) Technical Specification for Item No. {8}:

The item includes providing & fixing **concealed 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 1.5 Sq.mm continuous stranded copper conductor wire for earth to be laid in existing concealed pipe. Red for Phase, Black for Neutral and Green for Earth colour code is to be used.

If required in case of non tracing the circuit, then wiring for light/tube/bell point from switchboard will be provide through PVC Round Pipe with IS: 9537 (Part-III) 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. The proper size of conduit grew shall be prepared by contractor on wall as case after laying of conduit pipe, the grew shall be closed with mixture of cement & sand and to match with existing surface of wall. 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. The modular plate and its boxes are already considered in Item No. 43, which may please be referred.

(9) Technical Specification for Item No. {9}:

The item includes providing & fixing **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 1.5 Sq.mm continuous stranded copper conductor wire for earth to be laid through heavy duty flat Casing Capping strip (32 mm size) and other accessories such as Tee, junction box, inspection bends, elbow etc. of approved make as directed by Engineer-in-

Charge. The PVC Casing Capping strip shall be fixed rigidly on wall/ceiling with suitable size heavy duty PVC saddle set with base, clamp & screw at the interval of 0.5 meter. 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. The modular plate and its boxes are already considered in Item No. 44 which may please be referred.

(10) Technical Specification for Item No. {10}

The item includes providing & fixing **concealed wiring for Modular fan point** from existing 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 1.5 Sq.mm continuous stranded copper conductor wire for earth to be laid through in existing concealed Pipe of ceiling.

The wiring for Fan point will be provide through PVC Round Pipe with IS: 9537 (Part-III) of size 20 mm Diameter of Medium Mechanical Strength (MMS) type and other accessories such as Tee, junction box, bend, etc. of approved make. The proper size of grew shall be prepared by contractor on wall as case may be & the conduit pipe shall be laid through prepared grew. After laying of pipe the grew shall be closed with mixture of cement & sand and to match with existing surface of wall/ceiling.

The GI 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.

(11) Technical Specification for Item No. {11}

The item includes providing & fixing **surface wiring for Modular fan 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 1.5 Sq.mm continuous stranded copper conductor wire for earth to be laid through PVC heavy duty casing Capping Strip (32 mm size) and Medium Mechanical Strength (MMS) suitable other accessories such as Tee, junction box, inspection bends, elbow etc. of approved make as directed by Engineer-in-Charge. The PVC heavy duty flat casing Capping Strip conduit shall be fixed rigidly on wall/ceiling with suitable size heavy duty PVC saddle set with base, clamp & screw at the interval of 0.5 meter.

The modular plate alongwith its box shall be rigidly fixed with cemented wooden gutties on the wall. 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}:

Full plug point The item includes providing & fixing concealed wiring for Modular Plug Point with Flame Retardant, 1100 Voltage grade, single core stranded copper conductor wire with IS: 694/1990 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 in existing concealed Pipe, by removing old wires.

The wiring for full plug point from will be provide through PVC Round Pipe with IS: 9537 (Part-III) of size 25mm Diameter of Medium Mechanical Strength (MMS) type and other accessories such as Tee, junction box, bends, etc. of approved make. The proper size of grew shall be prepared by contractor on wall/ceiling as case may be & the conduit pipe shall be laid through prepared grew and after laying of pipe, the grew shall be closed with mixture of cement & sand and to match with existing surface of wall and Ceiling.

The GI 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.

Half plug point The item includes providing & fixing half Modular point in switch board 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 & earth. 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.

The GI 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.

(13) Technical Specification for Item No. {13}:

The item includes providing & fixing surface wiring for -

Full plug point with Flame Retardant, 1100 Voltage grade, single core stranded copper conductor wire with IS: 694/1990 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 in the PVC heavy duty flat casing Capping Strip (32 mm size) and Medium Mechanical Strength (MMS) shall be fixed rigidly on wall/ceiling with suitable size heavy duty PVC saddle set with base, clamp & screw at the interval of 0.5 meter. Other accessories such as Tee,

junction box, bends, etc. by removing old wires and casing capping strip of the approved make as directed by Engineer-in-Charge.

The work consists providing & fixing of 1 no. Modular SP switch 6A x 250V with spark shield with ISI mark and 2 Modular 2 in 1 socket 6A X 250 V with shutter made from polycarbonate on suitable size of PVC box with cover. The GI 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.

Half plug point The item includes providing & fixing half point in switch board 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 & earth. The complete work consists necessary wiring connections and earth linking with all materials and labour as directed by Engineer-in-charge.

(14) Technical Specification for Item No. {14, 15, 16, 17 & 18} :

Power point The item includes providing and fixing concealed/surface 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 in The PVC heavy duty Conduit/flat Casing Capping Strip shall be fixed rigidly on wall/ceiling with suitable size heavy duty PVC saddle set with base, clamp & screw at the interval of 0.5 meter other accessories such as Tee, junction box, bends, etc. of approved make. The proper size of screw shall be prepared by contractor on wall.

The GI 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.

(15) Technical Specification for Item No. {19 & 20} :

This includes providing and fixing concealed/surface wiring for AC Point with Flame Retardant 1100 voltage grade, single core stranded copper conductor wire of size 4.0 sq.mm. for phase & neutral wire and 4 sq.mm. continuous stranded copper conductor wire for each to be laid through the PVC heavy duty Conduit/flat Casing Capping Strip shall be fixed rigidly on wall/ceiling with suitable size heavy duty PVC saddle set with base, clamp & screw at the interval of 0.5 meter other accessories such as Tee, junction box, inspection

bends, elbow etc. of approved make. The proper size of grew shall be prepared by contractor on wall.

The GI box of suitable size shall be embedded properly in the wall and the combined unit i.e. 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.

(16) Technical Specification for Item No. {21} :

- (a) **Supply** : This includes supply of energy efficient LED 12/20 Watt, cool white, surface mounted bulk head light fixture of approved make and as directed by Engineer In Charge.
- (b) **Fixing** : This includes fixing and commissioning of supplied LED 12/20 Watt bulk head light fixture on wall/ceiling at suitable height on cemented wooden gutties as directed and connection with 3 core flexible copper cable of size 1 sq.mm. from nearest source of supply & necessary connections & earth linking with all material and labour and as directed by Engineer-In-Charge.

(17) Technical Specification for Item No. {22}

This includes supply & fixing of 8 way double doors SPN DB with IP42 degree of protection in Quarters Category E-type and F-type and 12 ways in Quarters Category A-type to D-type. The DB shall be made from special grade of CRCA sheet and powder coated. The DB shall be fitted with Bus bar, DIN Rail and neutral link.

Sr. No	Description for 1 Box (8 ways)	Qty For each DB
1	SP MCB 6-10 Amp	1
2	DP MCB 20 Amp	1
3	SP MCB 32 Amp.	1
4	4 Pole 40 Amp. MCB	1

Sr. No	Description for 1 Box (12 ways)	Qty For each DB
1	SP MCB 6-10 Amp	6
2	SP MCB 32 Amp.	2
3	4 Pole 40 Amp. RCCB	1

This includes fixing & commissioning of supplied double door SPN 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.

(18) Technical Specification for Item No. {23}

This includes supply of DIN Rail mounted 2 Pole RCCB (EL+MCB) 25 Amps. X 230 Volts 50 Hz. with 100 mA sensitivity & 6 kA Breaking capacity. The RCCB consist 3 in 1 protection against overload protection, protection against electrical leakage in the circuit. The supplied RCCB shall be conform to IS: 12640-2:2001, IEC: 61009-2-1:1996. The terminals of RCCB shall be serrated type.

(19) Technical Specification for Item No. {24}

This includes supply of DIN Rail mounted 4 Pole RCCB (EL+MCB) 40 Amps. X 415 Volts 50 Hz. with 100mA sensitivity & 6kA Breaking capacity. The RCCB consist 3 in 1 protection against overload protection, protection against electrical leakage in the circuit. The supplied RCCB shall be conform to IS: 12640-2:2001, IEC: 61009-2-1:1996. The terminals of RCCB shall be serrated type.

(20) Technical Specification for Item No. {25}

This includes supply at site 4 Core, 16 sq. mm. aluminium conductor, XLPE insulated armoured cable confirming to IS : 7098 (Part-I) 1985 with up to date amendments and of approve 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 having marking/embossing at the interval of every meter showing its progressive length. The contractor shall produce the routine test certificate during supply of cable at site. The rate shall inclusive of all taxes, duties, packing, forwarding, insurance, transportation, and unloading at site of work, etc.

(21) Technical Specification for Item No. {26}

This includes preparation of earth station with chemical treated back filled compound Corrosion protection by hot dip 25-30 mm dia Pipe In Pipe GI Type 2 Mtr Depth, Maintenance free including with all accessories & Masonry work. 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.

(22) Technical Specification for Item No. {27}

The works include providing & fixing the Main DB/Meter/SB 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.

i). 8 SWG GI wire.

This includes supply, Laying & connecting, 8 SWG GI wire, from DB/Meter /SB 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 nut bolts rigidly or as directed by EIC.

(23) Technical Specification for Item No. {28}

This items includes supply and fixing of 20 watt LED gate light (2 nos. in each 'A' & 'B' type quarters) with operating on 180 to 240 V single phase 50 HZ supply.

(24) Technical Specification for Item No. {29} :

- (a) **Supply** : This includes supply of energy efficient LED 18 Watt, 230 Volt, 50 Hz AC cool white bulk head light fixture of approved make and as directed by Engineer In Charge.
- (b) **Fixing** : This includes fixing and commissioning of supplied LED 18 Watt bulk head 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 & necessary connections & earth linking with all material and labour and as directed by Engineer-In-Charge.

(25) Technical Specification for Item No. {30}

This includes Complete dismantling & removal of existing deteriorated pole with overhead conductor & street light including relevant accessories. Before dismantling & removal of Pole the conductor & street light shall be removed from each pole in such a way that same shall not be get damaged and can be reused. Also, in the same way the pole shall be removed so that same can be used in future if required. All the items dismantled have to be minutely recorded and handed over to the substation, Gopalpuri, DPA or as directed by EIC.

Sd/-

Seal & Signature
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
C(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/HAVELLS
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 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/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 & 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

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.

Before procurement of material, the Make of the material should be approved by EIC in writing.

Seal & Signature of
Contractor

Sd/-

Executive Engineer (Elect.)
Deendayal Port Authority