



**NAYA RAIPUR DEVELOPMENT AUTHORITY**

**Tender Document for Supply, Installation, Testing and  
Commissioning of HT/LT Distribution system for Retail  
Complex building at sector-21 of Naya Raipur**

(Following Three-Envelope Tender Procedure)

**Schedule – A  
Price Tender  
To be submitted in ENVELOPE-3**

**NIT No. : 104 /HT-LT-DS /RB/ELECT /CE(E)/NRDA/2016-17,Naya Raipur**

**Dated: 21 .09.2016**

**Issued by:** Chief Executive Officer,  
Naya Raipur Development Authority (NRDA)  
4th Floor, Paryavas bhawan, North block, Sector- 19,  
Naya Raipur- 492 002, Chhattisgarh  
Tel No: + 91 771 2512500; Fax No.: +91 771 2512400.  
Website: [www.nayarapur.gov.in](http://www.nayarapur.gov.in)

## Tender Document Contains

- (a) Only schedule "A" and Section-I of schedule "D" are to be filled & signed by the tenderer
- (b) All the certificates as per pre qualification criteria shall be appended with relevant forms of schedule "D"

### 1. PART ONE (NRDA F-1)-(Attached herewith, to be submit along the tender)

#### Part (A)

- a) Press Notice
- b) Detailed NIT

#### Part (B)

##### a) Schedule-A

- (i) Cost Abstract
- (ii) Bill of Quantities

- b) Schedule-B –NIL
- c) Schedule-C –NIL
- d) Schedule-D

##### Section-I..... Technical tender forms

- (i) Letter of Technical Tender
- (ii) Tenderer's Information Sheet
- (iii) Annual Turnover
- (iv) Specific Construction Experience
- (v) Declaration
- (vi) Check list for Technical tender evaluation

##### Section –II .....Scope of work

##### Section –III..... Technical specifications of work

##### Section –IV..... Special Conditions of Contract

##### Section –V..... List of approved makes

##### Section –VI..... Drawings

- e) Schedule-E
- f) Schedule-F

### 2. PART TWO (NRDA F-2/3 )-Standard form (Not Attached herewith, and not to be submitted along the tender)

Important note: - Link site <http://nayaraipur.com/documents/gcc.pdf>

- 1. General Guidelines
- 2. Tender
- 3. General rules and directions
- 4. Conditions of contract
- 5. Clauses of contract
- 6. Model rules relating to labour, water supply and sanitation in labour camps safety code
- 7. Contract forms
  - (a) Draft Format for Performance Security
  - (b) Earnest Money Deposit Form (Bank Guarantee)
  - (c) Format of Contract Agreement
  - (d) Draft Format for Performance Guarantee for Water Proofing and Anti-termite Works
  - (e) Indemnity Bond
  - (f) Indenture Bond
  - (g) Notice for Appointment of Arbitrator
- 8. Proforma of schedules (Schedule 'A' to Schedule 'F')

# Naya Raipur Development Authority (NRDA) Raipur, Chhattisgarh

## Document details

Name of work : “Supply, Installation, Testing and Commissioning of HT/LT Distribution system for Retail Complex building at sector-21 of Naya Raipur”.

Name of Tenderer:

## Details

- a) Cost of Tender Document : Rs
- b) EMD : Rs

Signature of Tenderer

Date: \_\_\_\_\_

<b>Cost Abstract</b>			
<b>Supply, Installation, Testing and Commissioning of HT/LT Distribution system for Retail Complex building at sector-21 of Naya Raipur</b>			
<b>Sr No.</b>	<b>Description of Works</b>	<b>Total Amount in Rs.</b>	<b>Total Amount in Words (Rs)</b>
1	HV Equipment's		
2	LT Panel		
3	Distribution Board's		
4	Cables		
5	Cable Tray's and conduit		
6	Light Fixtures		
7	Earthing		
8	Lighting Protection		
9	Miscleanous		
10	Substation Equipment		
11	External Cable and Feeder Pillar		
12	Isolators , Cables & Terminations		
<b>Total Amount in INR</b>			

<p align="center"><b>Bill of quantity</b>  <b>Supply, Installation, Testing and Commissioning of HT/LT Distribution system for Retail Complex building at sector-21 of Naya Raipur</b></p>						
Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
1	<b>HV EQUIPMENTS</b>					
1.1.1	<b>33 KV 5 VERTICAL HT PANEL :</b>					
	Supply, Installation, Testing & Commissioning of indoor floor mounted 33KV switchboard comprising of 5 vertical panels with horizontal top bus bars of AL rated for 800 A with VCBs, in draw out executions. The VCB shall be rated for 36kV, 1600 A, 26kA for 3 sec., 24 Volt DC power pack complete & suitable for operating the control devices of HT panel. The panels shall be complete with all accessories with suitable capacity of Ammeter , Voltmeter & all internal connections with 2.5 sq. mm FRLS insulated copper conductor cable & hard wares etc. as required for completeness, as per attached specification/ drawing, CSPDCL standards and direction of EIC and as detailed below:					
	<b>Incomer</b>					
	1no. Panel for controlling incomer with VCB having motorised spring charge closing mechanism with antipumping protection and trip free features ,motor voltage 230V AC and tripping / closing coil of 24 DC voltage, CTs 150/75/5A ,core-1 class 1.0 accuracy, 15 VA current transformer (cast resin) for metering & core-2 class 5P10 accuracy current transformer (cast resin) for protection. PTs of ratio 33kV/ $\sqrt{3}$ : 110V/ $\sqrt{3}$ , 100VA, CL-1 per phase with control fuse. digital Ammeter/ voltmeter/ Static Energy meter, O/C, E/F relay etc. The cable chamber shall have 3 nos. 20kV, 10kA station class, valve type lightning arrester.					
	<b>Outgoing for transformer protection</b>					
	4Nos. Panel for controlling distribution transformer with VCB 1600A, 26 kA for 3 second, horizontal drawout type, CTs 50/25/5A, 15 VA burden, core 1 ,class 1.0 accuracy & core-2, 5P10 current transformer (cast resin) for protection for metering, digital meters, Static energy Meters etc.	1	No.			
	Each breaker complete with following common accessory :-					
	230V AC spring charge motor.					
	24V DC shunt trip coil.					
	Triple pole IDMTL over current and earth fault relay with instantaneous high set over current and earth fault relay should be SCADA compatible having 61850 protocol.					
	Master trip lock out relay.					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	Trip circuit supervision relay.					
	Auxillary relay.					
	Antipumping relay.					
	Ammeter (0-50A) with three way ON and OFF selector switch.					
	Breaker control switch : (TNC)					
	Circuit breaker ON / OFF / Autotrip / Spring charged / Trip circuit healthy indicating lamp (LED type)					
	100W anticondensation space heater with thermostat.					
	6 Window Annunciator with Audio & Visual Alarm and ccept/Test/Reset Push Button.					
<b>1.1.2</b>	<b>33 KV 4 VERTICAL HT PANEL</b>					
	Supply, Installation, Testing & Commissioning of indoor floor mounted 33KV switchboard comprising of 4 vertical panels with horizontal top bus bars of AL rated for 800 A with VCBs, in draw out executions. The VCB shall be rated for 36kV, 1600 A, 26kA for 3 sec., 24 Volt DC power pack complete & suitable for operating the control devices of HT panel. The panels shall be complete with all accessories with suitable capacity of Ammeter, Voltmeter & all internal connections with 2.5 sq. mm FRLS insulated copper conductor cable & hard wares etc. as required for completeness, as per attached specification/ drawing, CSPDCL standards and direction of EIC and as detailed below:					
	<b>Incomer</b>					
	1no. Panel for controlling incomer with VCB having motorised spring charge closing mechanism with antipumping protection and trip free features ,motor voltage 230V AC and tripping / closing coil of 24 DC voltage, CTs 150/75/5A ,core-1 class 1.0 accuracy, 15 VA current transformer (cast resin) for metering & core-2 class 5P10 accuracy current transformer (cast resin) for protection. PTs of ratio 33kV/ $\sqrt{3}$ : 110V/ $\sqrt{3}$ , 100VA, CL-1 per phase with control fuse. digital Ammeter/ voltmeter/ Static Energy meter, O/C, E/F relay etc. The cable chamber shall have 3 nos. 20kV, 10kA station class, valve type lightning arrester.					
	Outgoing for transformer protection					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	3Nos. Panel for controlling distribution transformer with VCB 1600A, 26 kA for 3 second, horizontal drawout type, CTs 50/25/5A, 15 VA burden, core 1 ,class 1.0 accuracy & core-2, 5P10 current transformer (cast resin) for protection for metering, digital meters, Static energy Meters etc.	1	No.			
	Each breaker complete with following common accessory :-					
	230V AC spring charge motor.					
	24V DC shunt trip coil.					
	Triple pole IDMTL over current and earth fault relay with instantaneous high set over current and earth fault relay should be SCADA compatible having 61850 protocol.					
	Master trip lock out relay.					
	Trip circuit supervision relay.					
	Auxillary relay.					
	Antipumping relay.					
	Ammeter (0-50A) with three way ON and OFF selector switch.					
	Breaker control switch : (TNC)					
	Circuit breaker ON / OFF / Autotrip / Spring charged / Trip circuit healthy indicating lamp (LED type)					
	100W anticondensation space heater with thermostat.					
	6 Window Annunciator with Audio & Visual Alarm and ccept/Test/Reset Push Button.					
1.2	Supplying and laying one number following sizes XLPE, steel armoured, aluminium conductor power cable of 33 KV grade direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.					
1.2.1	3 x 300 sq mm	500	Rmt			
1.3	Supplying and making outdoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminum conductor cable of 33 KV grade as required :					
1.3.1	300 sq. mm	19	Each			

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
1.4	<p><b>METERING UNIT</b></p> <p>Supplying/Receiving, Installation, Testing and Commissioning of Powder coated, 14 SWG CRCA sheet steel enclosed 33 KV H.T. Metering Panel complete with the following:</p> <p>1set of 33/ 3KV / 110/ 3 Volt, 100 VA burden &amp; accuracy class 0.5, single phase construction, dry type cast resin PT.</p> <p>3 Nos. of dual core 25/5-5A, 15 VA burden, accuracy class 0.5, 33 KV cast resin CTs .</p> <p>One Set of Phase Indicating Lamps.</p> <p>2 Sets of HRC fuses with fuse base (H.T. Fuse - 1A &amp; LT fuse 2-6A).</p> <p>2 Nos. indoor cable end box for suitable for 3C x 120 sq.mm. 33 KV(E), aluminium conductor XLPE Ar. cable (Incoming &amp; Outgoing cable).</p> <p>1 No. approved digital Trivector meter with MDI in KVA of accuracy class - 0.5.</p>	1	Each			
	<b>Sub Total of HV EQUIPMENT'S</b>					
2	<b>LT PANEL</b>					
	<p>Supplying, fabricating, installation, testing and commissioning free standing type MS powder coated cubicle three phase, 415 V power distribution/ control Type Tested Panel conforming to IS : 61439 fabricated from 14 SWG MS sheet complete with required MS angle supports, tinned electrolytic Aluminium bus bar chamber with required rating, control switchgear and meter fixing plate, compartments for switch gear, meters and cables as per approved general arrangement plan, including 7 tank processes , approved shade powder coating, neoprene rubber gasket, internal wiring required foundation, earthing terminal, detachable gland plate, required size and rating rubber mating in front of each panel etc. as specified and shown on SLD complete with following</p>					
	<b>MAIN DISTRIBUTION BOARD</b>					
2.1	<b>MDB-E9A-L0</b>					
	<b>Incomer:</b>					



Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	3200A, 4P, 415V, Electrically draw out ACB, 50kA- 2 Nos.	1	Each			
	CT's of ratio 3200/5A- 2 set					
	Electromechanical interlock between above 4 breakers as per logic shown in schematic.					
	Communication modules for BMS compatibility.					
	Multifunctional meter ( MFM-2 as per schematic) - 2 Nos					
	TPN Aluminium bus bars of minimum of 3200 Amps withstanding fault level of 50kA for 1 sec - 1 Set					
	Shunt trip coil of 220 V A.C as required.					
	<b>Bus couplers</b>					
	2000A, 4P, 415V, Electrically draw out ACB, 50kA- 1 No.					
	<b>Outgoings</b>					
	1250A, 4P, 415V, Electrically draw out ACB, 50kA - 1 No..					
	CT's of ratio 1250/5 Amps - 1 Set					
	Multifunctional meter (Type M) - 1 No.					
	1000A, 4P, 415V, Electrically draw out ACB, 50kA - 1 No..					
	CT's of ratio 1000/5 Amps - 1 Set					
	Multifunctional meter (Type M) - 1 No.					
	800A, 4P, 415V, Electrically draw out ACB, 50kA. - 2 Nos					
	CT's of ratio 800/5 Amps - 2 Set					
	Multifunctional meter (Type M) - 2 Nos					
	630A, 4P, 415V, MCCB, 36kA - 1 Nos..					
	CT's of ratio 630/5 Amps - 1 Set					
	Multifunctional meter (Type M) - 1 nos.					
	400A, 4P, 415V, MCCB, 36kA - 1 Nos..					
	CT's of ratio 400/5 Amps - 1 Set					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	Multifunctional meter (Type M) - 1 nos.					
	100 A, 4P, 415V, MCCB, 36kA -2 Nos.					
	CT's of ratio 100/5 Amps - 2 Set					
	Multifunctional meter (Type M) - 2 Nos.					
	63 A, 4P, 415V, MCCB, 25kA -2 Nos					
	CT's of ratio 63/5 Amps - 2 Set					
	Multifunctional meter (Type M) - 2 Nos.					
<b>2.2</b>	<b>MDB-E9B-L0</b>					
	<b>Incomer:</b>					
	1600A, 4P, 415V, Electrically draw out ACB, 50kA- 2 Nos.					
	CT's of ratio 1600/5A- 2 set					
	Electromechanical interlock between above 4 breakers as per logic shown in schematic.					
	Communication modules for BMS compatibility.					
	Multifunctional meter ( MFM-2 as per schematic) - 2 Nos					
	TPN Aluminium bus bars of minimum of 1600 Amps withstanding fault level of 50kA for 1 sec - 1 Set					
	Shunt trip coil of 220 V A.C. as required.					
	<b>Outgoings</b>					
	800A, 4P, 415V, Electrically draw out ACB, 50kA- 1 No.					
	CT's of ratio 800/5 Amps - 1 Set					
	Multifunctional meter (Type M) - 1 No.	1	Each			
	630A, 4P, 415V, MCCB, 36kA - 2 Nos..					
	CT's of ratio 630/5 Amps - 2 Set					
	Multifunctional meter (Type M) - 2 nos.					
	250A, 4P, 415V, MCCB, 36kA . - 3 Nos.					
	CT's of ratio 250/5 Amps - 3 Set					
	Multifunctional meter (Type M) - 3 Nos.					



Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	CT's of ratio 400/5 Amps - 2 Set					
	Multifunctional meter (Type M) - 2 Nos.					
	250A, 4P, 415V, MCCB, 36kA . - 1 No.					
	CT's of ratio 250/5 Amps - 1 Set					
	Multifunctional meter (Type M) - 1 No.					
	63A, 4P, 415V, MCCB, 25kA -1 No.					
	CT's of ratio 100/5 Amps - 1 Set					
	Multifunctional meter (Type M) - 1 No.					
<b>2.4</b>	<b>MDB-E10B-L0</b>					
	<b>Incomer:</b>					
	3200A, 4P, 415V, Electrically draw out ACB, 50kA- 2Nos					
	CT's of ratio 3200/5A- 2 set					
	Electromechanical interlock between above 4 breakers as per logic shown in schematic.					
	Communication modules for BMS compatibility.					
	Multifunctional meter ( MFM-1 as per schematic) - 2 Nos					
	TPN Aluminium bus bars of minimum of 3200 Amps withstanding fault level of 50kA for 1 sec - 1 Set					
	Shunt trip coil of 220 V A.C as required.					
	<b>Bus couplers</b>					
	2000A, 4P, 415V, Electrically draw out ACB, 50kA- 1 No.					
	<b>Outgoings</b>					
	1250A, 4P, 415V, Electrically draw out ACB, 50kA - 1 No..					
	CT's of ratio 1250/5 Amps - 1 Set					
	Multifunctional meter (Type M) - 1 No.					
	800A, 4P, 415V, Electrically draw out ACB, 50kA - 2 No.	1	Each			
	CT's of ratio 800/5 Amps - 1 Set					
	Multifunctional meter (Type M) - 1 no.					
	630A, 4P, 415V, MCCB, 36kA - 2 Nos..					
	CT's of ratio 630/5 Amps - 2 Set					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	Multifunctional meter (Type M) - 2 nos.					
	400A, 4P, 415V, MCCB, 36kA - 2 Nos..					
	CT's of ratio 400/5 Amps - 2 Set					
	Multifunctional meter (Type M) - 1 no.					
	250A, 4P, 415V, MCCB, 36kA . - 2 Nos.					
	CT's of ratio 250/5 Amps - 2 Set					
	Multifunctional meter (Type M) - 2 Nos.					
	63A, 4P, 415V, MCCB, 25kA -1 No.					
	CT's of ratio 100/5 Amps - 1 Set					
	Multifunctional meter (Type M) - 1 No.					
	<b>SUB MAIN DISTRIBUTION BOARD</b>					
<b>2.5</b>	<b>SMDB-LS-EM-E9A-B1 (Same for E9B, E10A, E10B)</b>					
	<b>Incomer:</b>					
	800A, 4P, 415V, Electrically draw out ACB, 50kA- 1 No.					
	CT's of ratio 800/5A- 1 set					
	Communication modules for BMS compatibility.					
	Multifunctional meter ( MFM-2 as per schematic) - 1 Nos					
	TPN Aluminium bus bars of minimum of 800 Amps withstanding fault level of 50kA for 1 sec - 1 Set					
	Shunt trip coil of 220 V A.C as required.					
	<b>Outgoings</b>					
	400A, 4P, 415V, MCCB, 36kA - 1 No.					
	CT's of ratio 400/5 Amps - 1 Set					
	Multifunctional meter (Type M) - 1 no.					
	250A, 4P, 415V, MCCB, 36kA . - 2 Nos.					
	CT's of ratio 250/5 Amps - 2 Set					
	Multifunctional meter (Type M) - 2 Nos.					
	63A, 4P, 415V, MCB, 10kA -2 Nos.					
	CT's of ratio 63/5 Amps - 2 Set					
		4	Nos			

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	Multifunctional meter (Type M) - 2 Nos.					
	40A, 4P, 415V, MCB, 10kA -2 Nos.					
	CT's of ratio 40/5 Amps - 2 Set					
	Multifunctional meter (Type M) - 2 Nos.					
<b>2.6</b>	<b>SMDB-PWR-ESS-E9A-B1</b>					
	<b>Incomer:</b>					
	630A, 4P, 415V, MCCB, 36kA - 1 No.					
	CT's of ratio 630/5A- 1 Set					
	Communication modules for BMS compatibility.					
	Multifunctional meter ( MFM-2 as per schematic) - 1 No.					
	TPN Aluminium bus bars of minimum of 630 Amps withstanding fault level of 36kA for 1 sec - 1 Set					
	Shunt trip coil of 220 V A.C. as required.					
	<b>Outgoings</b>					
	400A, 4P, 415V, MCCB, 36kA - 1 No.					
	CT's of ratio 400/5 Amps - 1 Set					
	Multifunctional meter (Type M) - 1 no.					
	80A, 4P, 415V, MCCB, 25kA -2 Nos.					
	CT's of ratio 80/5 Amps - 2 Set					
	Multifunctional meter (Type M) - 2 Nos.					
	40A, 4P, 415V, MCB, 10kA -15 Nos.					
	CT's of ratio 40/5 Amps - 15 Set					
	Multifunctional meter (Type M) - 15 Nos.					
<b>2.7</b>	<b>BOULEVARD L&amp;P -E9A FEEDER PILLAR PANEL (Same for E9B, E10A, E10B)</b>					
	<b>Incomer:</b>					
	400A, 4P, 415V, MCCB, 25kA - 1 No.					
	CT's of ratio 400/5A- 1 Set					
	Multifunctional meter ( Type M as per schematic) - 1 No.					
	TPN Aluminium bus bars of minimum of 400 Amps withstanding fault level of 36kA for 1 sec - 1 Set					
	<b>Outgoings</b>					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	100A, 4P, 415V, MCCB, 16kA - 2 Nos..					
	CT's of ratio 100/5 Amps - 2 Set					
	63A, 4P, 415V, MCCB, 16kA -4 Nos.					
	CT's of ratio 63/5 Amps - 4 Set					
<b>2.8</b>	<b>SMDB-PWR-ESS-E9B-B1 (Same for E10A &amp; E10B)</b>					
	<b>Incomer:</b>					
	630A, 4P, 415V, MCCB, 36kA - 1 No.					
	CT's of ratio 630/5A- 1 Set					
	Communication modules for BMS compatibility.					
	Multifunctional meter ( MFM-1 as per schematic) - 1 No.					
	TPN Aluminium bus bars of minimum of 630 Amps withstanding fault level of 36kA for 1 sec - 1 Set					
	Shunt trip coil of 220 V A.C as required.					
	<b>Outgoings</b>					
	400A, 4P, 415V, MCCB, 36kA - 1 No.					
	CT's of ratio 400/5 Amps - 1 Set					
	Multifunctional meter (Type M) - 1 no.					
	80A, 4P, 415V, MCCB, 25kA -2 Nos.					
	CT's of ratio 80/5 Amps - 2 Set					
	Multifunctional meter (Type M) - 2 Nos.					
	63A, 4P, 415V, MCCB, 25kA -2 Nos.					
	CT's of ratio 63/5 Amps - 2 Set					
	Multifunctional meter (Type M) - 2 Nos.					
	40A, 4P, 415V, MCB, 10kA -12 Nos.					
	CT's of ratio 40/5 Amps - 12 Set					
	Multifunctional meter (Type M) - 12 Nos.					
<b>2.9</b>	<b>LT DISTRIBUTION PANEL APFC-PANEL-1 (400 KVAR)</b>					
	<b>Incomer:</b>					
	800 A, 4P, 415V, MCCB, 36kA - 1 No.					
	CT's of ratio 800/5 Amps - 1 Set					
	Multifunctional meter (Type MFM-2) -1 Nos.					
	Indicating lamps RYB with fuse protection as shown in schematic - 1 sets					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount					
	TPN Aluminium bus bars of minimum of 800 Amps withstanding fault level of 25 kA for 1 sec 1 Set	3	Each								
	Shunt trip coil of 220 V A.C as required.										
	All capacitor should accompanied with 7 % detuned reactor										
	<b>Outgoings</b>										
	250 A, TP, 415V, MCCB, 36kA - 3 Nos.										
	CT's of ratio 125/5 Amps - 3 Set										
	125 A, TP, 415V, MCCB, 36kA - 1 No.										
	CT's of ratio 125/5 Amps - 1 Set										
	63 A, TP, 415V, MCCB, 36kA - 4 Nos.										
	CT's of ratio 63/5 Amps - 4 Set										
	100 kVAR Cylindrical Gas Filled Heavy duty MPP type capacitors- 3 No.										
	50 kVAR Cylindrical Gas Filled Heavy duty MPP type capacitors- 1 No.										
	25 kVAR Cylindrical Gas Filled Heavy duty MPP type capacitors- 2 Nos.										
	8 Stage APFC relay - 1 No.										
<b>2.10</b>	<b>LT DISTRIBUTION PANEL APFC-PANEL-1 (250 KVAR)</b>						1	Each			
	<b>Incomer:</b>										
	400 A, 4P, 415V, MCCB, 36kA - 1 No.										
	CT's of ratio 400/5 Amps - 1 Set										
	Multifunctional meter (Type MFM-2) -1 Nos.										
	Indicating lamps RYB with fuse protection as shown in schematic - 1 sets										
	TPN Aluminium bus bars of minimum of 400 Amps withstanding fault level of 25 kA for 1 sec 1 Set										
	Shunt trip coil of 220 V A.C as required.										
	All capacitor should accompanied with 7 % detuned reactor										
	<b>Outgoings</b>										
	250 A, TP, 415V, MCCB, 36kA - 1 No.										
	CT's of ratio 125/5 Amps - 1 Set										
	125 A, TP, 415V, MCCB, 36kA - 2 Nos.										
	CT's of ratio 125/5 Amps - 2 Set										
	63 A, TP, 415V, MCCB, 36kA - 4 Nos.										
	CT's of ratio 63/5 Amps - 4 Set										



Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	100 kVAR Cylindrical Gas Filled Heavy duty MPP type capacitors - 1 No.					
	50 kVAR Cylindrical Gas Filled Heavy duty MPP type capacitors - 2 Nos.					
	25 kVAR Cylindrical Gas Filled Heavy duty MPP type capacitors - 2 Nos.					
	8 Stage APFC relay - 1 No.					
<b>2.11</b>	<b>SDB-HVAC-ESS-E9B</b>					
	<b>Incomer:</b>					
	100A, 4P, 415V, MCCB, 16kA -1 No.					
	TPN Aluminium bus bars of minimum of 63 Amps withstanding fault level of 16kA for 1 sec - 1 Set	1	Each			
	<b>Outgoings</b>					
	25A, 4P, 415V, MCB, 10kA -7 Nos.					
<b>2.12</b>	<b>SDB-HVAC-ESS-E9A (Same for SDB-HVAC-ESS-E10A, SDB-HVAC-ESS-E10B, E4-ELPDB-B1)</b>					
	<b>Incomer:</b>					
	63A, 4P, 415V, MCCB, 16kA -1 No.					
	TPN Aluminium bus bars of minimum of 63 Amps withstanding fault level of 16kA for 1 sec - 1 Set	4	Nos.			
	<b>Outgoings</b>					
	25A, 4P, 415V, MCB, 10kA -4 Nos..					
<b>2.13</b>	<b>VTPNDB-L&amp;P-EM-E9A (Same as E9B, E10A &amp; E10B)</b>					
	<b>Incomer:</b>					
	63A, 4P, 415V, MCB, 10kA -1 No.					
	TPN Aluminium bus bars of minimum of 63 Amps withstanding fault level of 16kA for 1 sec - 1 Set	4	Nos.			
	<b>Outgoings</b>					
	40A, 4P, 415V, MCB, 10kA -4 Nos..					
<b>2.14</b>	<b>MDB-E4-L0</b>					
	<b>Incomer:</b>					
	800A, 4P, 415V, MCCB, 36kA - 1 No.					
	CT's of ratio 630/5A- 1 Set					
	Communication modules for BMS compatibility.					
	Multifunctional meter ( MFM-1 as per schematic) - 1 No.					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount					
	TPN Aluminium bus bars of minimum of 630 Amps withstanding fault level of 50kA for 1 sec - 1 Set	1	Each								
	Shunt trip coil of 220 V A.C as required.										
	<b>Outgoings</b>										
	400A, 4P, 415V, MCCB, 36kA - 2 Nos.										
	CT's of ratio 400/5 Amps - 1 Set										
	Multifunctional meter (Type M) - 1 no.										
	250A, 4P, 415V, MCCB, 36kA - 2 Nos.										
	CT's of ratio 250/5 Amps - 1 Set										
	Multifunctional meter (Type M) - 1 no.										
	63A, 4P, 415V, MCCB, 25kA -4 Nos.										
	CT's of ratio 63/5 Amps - 4 Set										
	Multifunctional meter (Type M) - 4 Nos.										
	25A, 4P, 415V, MCB, 10kA -4 Nos.										
	CT's of ratio 25/5 Amps - 4 Set										
	Multifunctional meter (Type M) - 4 Nos.										
<b>2.15</b>	<b>ACB PANEL-E9A ( Same for E10A &amp; E10B)</b>						3	Nos.			
	3200A, 4P, 415V, Electrically draw out ACB, 50kA in IP65 Sheet steel Enclosure - 1 No CT's of ratio 3200/5A- 1 set										
<b>2.16</b>	<b>ACB PANEL-E9B</b>	1	Nos.								
	1600A, 4P, 415V, Electrically draw out ACB, 50kA in IP65 Sheet steel Enclosure - 1 No CT's of ratio 3200/5A- 1 set										
<b>2.17</b>	<b>ELECTRICAL WORKS FOR METER ROOMS</b>										
<b>2.17.1</b>	<b>63A FLOOR METERING WORK WITH BUSBAR CHAMBER</b>	22	Set								
	63A 4P, MCCB, 16 KA- 1 No. 63A 4P, Aluminium Busbar enclosed in G.I chamber complete with insulators, nuts & bolts mounted alongside wall										
<b>2.17.2</b>	<b>80A FLOOR METERING WORKS WITH BUSBAR CHAMBER</b>	9	Set								
	80A 4P, MCCB, 16 KA- 1 No. 80A TPN Alumium Busbar enclosed in G.I chamber complete with insulators, nuts & bolts mounted alongside wall										

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
<b>2.17.3</b>	<b>100A FLOOR METERING WORKS WITH BUSBAR CHAMBER</b>					
	100A 4P, MCCB, 25 KA- 1 No.	1	Set			
	100A 4P, Alumium Busbar enclosed in G.I chamber complete with insulators, nuts & bolts mounted alongside wall					
<b>2.17.4</b>	<b>200A FLOOR METERING WORKS WITH BUSBAR CHAMBER</b>					
	200A 4P, MCCB, 25 KA- 1 No.	5	Set			
	200A 4P, Alumium Busbar enclosed in G.I chamber complete with insulators, nuts & bolts mounted alongside wall					
<b>2.17.5</b>	<b>250A FLOOR METERING WORKS WITH BUSBAR CHAMBER</b>					
	250A 4P, MCCB, 25 KA- 1 No.	9	Set			
	250A 4P, Alumium Busbar enclosed in G.I chamber complete with insulators, nuts & bolts mounted alongside wall					
<b>2.17.6</b>	<b>DG CHANGEOVER &amp; METERING PANEL ( FOR COMMERCIAL FLOORS)</b>					
	<b>Incomer:</b>	15	Nos.			
	63A, 4P, 415V, MCCB, 16kA - 1 No.					
	CT's of ratio 63/5A- 1 Set					
	Communication modules for BMS compatibility.					
	TPN Aluminium bus bars of minimum of 100 Amps withstanding fault level of 16kA for 1 sec - 1 Set					
	Shunt trip coil of 220 V A.C as required.					
	63A, 4P, 415V, MCB, 10kA -3 Nos.					
	40A, 4P, 415V, MCB, 10kA -9 Nos.					
	<b>Outgoings</b>					
	3 Phase ACCL TPN/TPN ( Mains TPN 40A, Genset TPN 6-16A)- 9 nos					
	3 Phase ACCL TPN/TPN ( Mains TPN 63A, Genset TPN 6-16A)- 3 nos					
	16A, 4P, 415V, MCB, 10kA -12 Nos.					
	CT's of ratio 16/5 Amps - 12 Set					
	KWH Energy meter with communication module - 12 Nos.					
<b>2.17.7</b>	<b>CHANGEOVER PANEL-E9A-L0 (SAME FOR L1)</b>					
	<b>Incomer:</b>	2	Each			
	63A 4P, MCCB, 16 KA- 2 Nos.					
	Electromechanical interlock between above 2 breakers as per logic shown in schematic.					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	TPN Aluminium bus bars of minimum of 100 Amps withstanding fault level of 16kA for 1 sec - 1 Set					
2.17.8	<b>CHANGEOVER PANEL-E10A-L0</b> <b>{{(SAME FOR E10A LVL L1 &amp; E10B (LVL0 &amp;1))}}</b>	4	Each			
	<b>Incomer:</b>					
	80A 4P, MCCB, 16 KA- 2 Nos.					
	Electromechanical interlock between above 2 breakers as per logic shown in schematic.					
	TPN Aluminium bus bars of minimum of 100 Amps withstanding fault level of 16kA for 1 sec - 1 Set					
	<b><u>DG ACB PANEL</u></b> <b>Design, fabrication, assembling, wiring, supply, installation, testing and commissioning</b> of Cubical, compartmentalized, Panel fabricated out of 14 gauge CRCA sheet steel in cubicle compartmentised free standing floor mounted, dust and vermin proof with reinforcement of suitable size angle iron, channel 'T' section and / or flats wherever necessary. 3 mm thick cable gland plates shall be provided on top as well as at the bottom of the panels. Panels shall be treated with all anticorrosive process before powder coating as per specification and final approved shade. 2 Nos. earthing terminals shall be provided for all panels. Galvanised hardwares with zinc passivation shall be used in fabrication of panels. Cost of all control cabling, required accessories in order to make panel functional shall be included as required.					
2.17.9	<b>DG PANEL-E09</b>	1	Each			
	<b>Incoming</b>					
	3200A, 4P, 415V, Electrically draw out ACB, 50kA- 1 No.					
	Multifunctional meter ( MFM-1 as per schematic) -1 No.					
	3 Nos. of CT's of ratio 3200/5A- 1 Set					
	Phase indicating light through 415 / 110 V PT, Primary & secondary of PT shall be protected by 2 amps SP MCB's.					
	Shunt trip coil of 220 V A.C as required.					
	TPN Aluminium bus bars of minimum of 3200 Amps withstanding fault level of 50kA for 1 sec - 1 Set					
	<b>Outgoings</b>					
	1600A, 4P, 415V, Electrically draw out ACB, 50kA- 1 No.					
	Multifunctional meter ( MFM-1 as per schematic) -1 No.					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	3 Nos. of CT's of ratio 1600/5A- 1 Set					
	3200A, 4P, 415V, Electrically draw out ACB, 50kA- 1 No.					
	Multifunctional meter ( MFM-1 as per schematic) -1 No.					
	3 Nos. of CT's of ratio 3200/5A- 1 Set					
	125A, 4P, 415V, Microprocessor based Adjustable MCCB, 25kA- 1 No.					
	Multifunctional meter ( MFM-1 as per schematic) -1 No.					
	3 Nos. of CT's of ratio 125/5A- 1 Set					
<b>2.17.10.</b>	<b>DG PANEL-E10</b>					
	<b>Incoming</b>					
	3200A, 4P, 415V, Electrically draw out ACB, 50kA- 1 No.					
	Multifunctional meter ( MFM-1 as per schematic) -1 No.					
	3 Nos. of CT's of ratio 3200/5A- 1 Set					
	Phase indicating light through 415 / 110 V PT, Primary & secondary of PT shall be protected by 2 amps SP MCB's.					
	Shunt trip coil of 220 V A.C as required.					
	TPN Aluminium bus bars of minimum of 3200 Amps withstanding fault level of 50kA for 1 sec - 1 Set	1	Each			
	<b>Outgoings</b>					
	3200A, 4P, 415V, Electrically draw out ACB, 50kA- 2 Nos.					
	Multifunctional meter ( MFM-1 as per schematic) -2 Nos.					
	3 Nos. of CT's of ratio 3200/5A- 2 Sets					
	125A, 4P, 415V, Microprocessor based Adjustable MCCB, 25kA- 1 No.					
	Multifunctional meter ( MFM-1 as per schematic) -1 No.					
	3 Nos. of CT's of ratio 125/5A- 1 Set					
<b>2.17.11</b>	<b>PLUMBING PANEL-E9A-L0, (Same for E9B, E10A, E10B) PUMP ROOM</b>					
	<b>Incomer:</b>					
	80A, 4P, 415V, MCCB, 25kA -1 No.					
	TPN Aluminium bus bars of minimum of 100 Amps withstanding fault level of 16kA for 1 sec - 1 Set	4	Each			
	<b>Outgoings</b>					
	32A, 4P, 415V, MCB, 10kA -3 Nos.					
	16A, 4P, 415V, MCB, 10kA -3 Nos.					
	10A, TPN, 415V, MCB, 10kA -9 Nos.					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
<b>2.17.12</b>	<b>PLUMBING PANEL-E4-L0,</b>					
	<b>Incomer:</b>					
	63A, 4P, 415V, MCCB, 16kA -1 No.					
	TPN Aluminium bus bars of minimum of 100 Amps withstanding fault level of 16kA for 1 sec - 1 Set	1	Each			
	<b>Outgoings</b>					
	32A, 4P, 415V, MCB, 10kA -1 Nos.					
	16A, 4P, 415V, MCB, 10kA -1 Nos.					
	10A, TPN, 415V, MCB, 10kA -6 Nos.					
<b>2.17.13</b>	<b>VENTILATION PANEL-E9A-L0, (Same for E9B, E10A, E10B) BASEMENT</b>					
	<b>Incomer:</b>					
	250A, 4P, 415V, MCCB, 25kA -1 No.					
	TPN Aluminium bus bars of minimum of 300 Amps withstanding fault level of 25kA for 1 sec - 1 Set	6	Each			
	<b>Outgoings</b>					
	80A, 4P, 415V, MCB, 16kA -3 Nos.					
	32A, 4P, 415V, MCB, 10kA -2 No.					
	10A, TP, 415V, MCB, 10kA -2 Nos.					
<b>2.17.14</b>	<b>TYPICAL LIFT PANEL-(E9A, E9B, 10A &amp; 10B) MACHINE ROOM</b>					
	<b>Incomer:</b>					
	40A, TPN, 415V, MCCB, 10kA -1 No.					
	TPN Aluminium bus bars of minimum of 63 Amps withstanding fault level of 10kA for 1 sec - 1 Set	16	Each			
	<b>Outgoings</b>					
	40A, TPN, 415V, RCCB, 300mA connected with 40A, TPN, 415V, MCB, 10kA -1 No.					
	16A, DP, 415V, MCB, 10kA -2 Nos.					
	<b>Sub Total of LT Panel</b>					
<b>3</b>	<b>DISTRIBUTION BOARDS</b>					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
3.1	Supplying and fixing on surface/ recess vertical type following way, 415 volts, TPN MCB distribution board of sheet steel phosphatized and powder painted, with 200 amps tinned copper busbar, common neutral link, earth bar, din bar, detachable gland/ knock out plate, including interconnections, earthing etc. as required. (But without MCB/RCCB/Isolator)					
3.1.1	12 way (4 + 36), Double door	11	Nos.			
3.1.2	8 way (4 + 24), Double door	40	Each			
3.1.3	4 way (4 + 12), Double door	1	Each			
3.2	Supplying and fixing on surface/ recess following way, 240 volts SP&N MCB distribution board of sheet steel phosphatized and powder painted complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, including interconnections, earthing etc. as required. (But without MCB/RCCB/Isolator)					
3.2.1	4 Way Double Door	1	Each			
3.2.2	8 Way Double Door	2	Each			
3.2.3	12 Way Double Door	1	Each			
3.2.4	16 Way Double Door	1	Each			
3.3	Supplying and fixing SP MCB, 240 volts, 'C' series, suitable for inductive load in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
3.3.1	6 amps to 32 amps	932	Each			
3.3.2	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	50	Each			
3.4	Supplying and fixing following rating, 415 volts, FOUR POLES, ISOLATOR in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
3.4.1	40 Amps	54	Each			

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
3.4.2	63 Amps	1	Each			
3.4.3	100 Amps	1	Each			
3.5	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current up to 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
3.5.1	25 Amps	2	Each			
3.5.2	40 Amps	162	Each			
3.5.3	63 Amps	2	Each			
3.8	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 63 amps 415 volts "C" curve TPN MCB complete with connections, testing and commissioning etc. as required for UPS	5	Each			
	<b>Sub Total of Distribution boards</b>					
4	<b>CABLES</b>					
4.1	Supplying and laying following sizes one number FRLS PVC insulated/ XLPE, PVC sheathed, steel armoured, aluminium conductor power cable of 1.1 KV grade direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.					
4.1.1	3.5 x 300 sq. mm.	2805	Rmt.			
4.1.2	1C x 500 sq. mm.	10674	Rmt.			
4.2	Supplying and laying following sizes one number PVC insulated/ XLPE, PVC sheathed, steel armoured, aluminium conductor power cable of 1.1 KV grade on surface/ existing cable tray with 1 mm thick GI saddle as required.					
4.2.1	3.5 x 25 sq. mm.	50	Rmt.			
4.2.2	3.5 x 35 sq. mm.	50	Rmt.			



Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
4.2.3	4 x 10 sq. mm.	775	Rmt.			
4.2.4	4 x 16 sq. mm.	5035	Rmt.			
4.2.5	4 x 25 sq. mm.	50	Rmt.			
4.3	Supplying and laying following sizes one number FRLS PVC insulated/ XLPE, PVC sheathed, steel armoured, aluminium conductor power cable of 1.1 KV grade on surface/ existing cable tray with 25x3 mm M.S flat clamp and steel dash fastener/ G.I. bolts and nuts as required.					
4.3.1	3.5 x 50 sq. mm.	520	Rmt.			
4.3.2	3.5 x 70 sq. mm.	330	Rmt.			
4.3.3	3.5 x 95 sq. mm.	335	Rmt.			
4.3.4	3.5 x 120 sq. mm.	190	Rmt.			
4.3.5	3.5 x 150 sq. mm.	2220	Rmt.			
4.3.6	3.5 x 185 sq. mm.	2390	Rmt.			
4.3.8	3.5 x 300 sq. mm.	2847	Rmt.			
4.3.9	1 x 500 sq. mm.	-10674	Rmt.			
4.4	<b>CABLE TERMINATIONS</b>					
	Supplying and making outdoor end termination with cast resin compound including aluminum lugs and other jointing materials for following size of PVC insulated and PVC sheathed / XLPE aluminum conductor power cable of 1.1 KV grade as required.					
4.4.1	3½ X 300 sq. mm	24	Each			
4.4.2	1C X 500 sq. mm	24	Each			
	Supplying and making end termination with brass compression gland and aluminum lugs for following size armoured aluminum conductor power cable of 1.1 KV grade as required.					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
4.4.4	3 X 25 sq. mm	2	Each			
4.4.5	3 X 35 sq. mm	2	Each			
4.4.6	3½ X 25 sq. mm	2	Each			
4.4.7	3½ X 35 sq. mm	4	Each			
4.4.8	3½ X 50 sq. mm	60	Each			
4.4.9	3½ X 70 sq. mm	12	Each			
4.4.10	3½ X 95 sq. mm	38	Each			
4.4.11	3½ X 120 sq. mm	36	Each			
4.4.12	3½ X 150 sq. mm	70	Each			
4.4.13	3½ X 185 sq. mm	120	Each			
4.4.14	3½ X 300 sq. mm	172	Each			
4.4.14A	1C X 500 sq. mm	312	Each			
4.4.15	4 X 10 sq. mm	30	Each			
4.4.16	4 X 16 sq. mm	190	Each			
4.4.17	4 X 25 sq. mm	2	Each			
4.4.18	4 X 35 sq. mm	2	Each			

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
4.5	Supplying, installing by suspension on ceiling, testing and commissioning of following capacity COMPACT SANDWICH, TYPE BUS TRUNKING for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply with metal clad enclosure made of 1.6mm thick steel sheet duly powder coated in convenient sections complete with 4 Nos aluminium bus bars, necessary joints, elbow joints & expansion joints and bends, fire barrier at each floor, provision of tapping at every metre, adopter box and copper flexible for joints, continuous earthing with 2 Nos aluminium strip of suitable size (one on each side) including, G.I. clamping brackets, suspenders, angle iron bracket, steel fasteners, connecting to earthing system etc. as required:					
4.5.1	400 amps 50KA SC for 1 sec	130	Rmt.			
4.5.2	1000 amps 50KA SC for 1 sec	35	Rmt.			
4.5.3	1250 amps 50KA SC for 1 sec	70	Rmt.			
4.6	Supplying, installing, testing and commissioning of TPN tap off box of following capacity, made of 1.6mm thick sheet steel enclosure duly painted with powder coating, on existing rising mains with MCCB , interconnections with copper lead and copper lugs/thimbles, earthing etc. as required:					
4.6.1	100 amps	1	Each			
4.6.2	200 amps	5	Each			
4.6.3	250 amps	9	Each			
4.6.4	80 amps	9	Each			
4.6.5	63 amps	22	Each			
4.7	Supplying, installing, End Feed Unit and connecting to existing general/ Compact Type bus trunking/ Rising mains, of following capacity for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply made with 1.6mm thick steel sheet enclosure duly powder coated with MCCB/ ACB complete with necessary joints including clamping brackets, angle iron bracket, steel fasteners, connecting to earthing system etc. as required:					
4.7.1	400 amps MCCB End Feed unit with 30KA SC for 1 sec	4	Nos.			
4.7.2	1000 amps ACB End feed unit 50KA SC for 1 sec	1	Nos.			
4.7.3	1250 amps ACB End feed unit 50KA SC for 1 sec	2	Nos.			

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	<b>Sub Total Item no. 4</b>					
<b>5</b>	<b>CABLE TRAYS AND CONDUITS</b>					
<b>5.1</b>	<p>Supplying and installing following size powder coated, perforated M.S. cable trays with perforation not more than 17.5% rigidly suspended from the ceiling with M.S. suspenders at a distance not more than 2.5 metre and near every junction/ joint etc complete as required.</p> <p>Cost of all material, fixing, hanging, supporting, installation materials, labour and machinery used in execution of work of shall be in the cost of item.</p> <p>The cable trays shall be measured in running metre correct to 1 cm, along the center line of the cable tray, including reducers, tees, cross joints but excluding bends which will be paid separately.</p>					
<b>6.1.1</b>	100 mm width X 50 mm depth X 1.6 mm thickness	100	Rmt.			
<b>5.1.2</b>	150 mm width X 50 mm depth X 1.6 mm thickness	960	Rmt.			
<b>5.1.3</b>	300 mm width X 50 mm depth X 1.6 mm thickness	3218	Rmt.			
<b>5.1.4</b>	450 mm width x 50 mm depth x 2.0 mm thickness	5136	Rmt.			
<b>5.1.5</b>	600 mm width X62.5 mm depth X 2.0 mm thickness	2635	Rmt.			
<b>5.1.6</b>	750 mm width X62.5 mm depth X 2.0 mm thickness	450	Rmt.			
<b>5.1.7</b>	900 mm width X62.5 mm depth X 2.0 mm thickness	1350	Rmt.			
<b>5.2</b>	Supplying and fixing of following sizes powder coated, perforated, M.S. cable trays bends (horizontal) turning at 900 in same plane with perforation not more than 17.5% rigidly jointed with cable tray etc. complete as required.					
<b>5.2.1</b>	100 mm width X 50 mm depth X 1.6 mm thick	4	Each			
<b>5.2.2</b>	150 mm width X 50 mm depth X 1.6 mm thick	35	Each			

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
5.2.3	300 mm width X 50 mm depth X 1.6 mm thick	110	Each			
5.2.4	450 mm width X 50 mm depth X 1.6 mm thick	175	Each			
5.2.5	600 mm width X 62.5 mm depth X 2 mm thick	90	Each			
5.2.6	750 mm width X 62.5 mm depth X 2 mm thick	15	Each			
5.2.7	900 mm width X 62.5 mm depth X 2 mm thick	45	Each			
5.3	<b>CONDUITS</b>					
	Supplying & fixing of following sizes of PVC rigid conduit along with accessories in surface/recess complete with junction box, joints, bends including cutting the wall and making good the same in case of recessed conduit etc. as required					
5.3.1	25 mm	200	Rmt			
5.3.2	32 mm	200	Rmt			
	<b>Sub total of Cables &amp; conduit</b>					
6	<b>LIGHT FIXTURES</b>					
	Supply, installation, testing & commissioning of light fixtures complete with required mounting bracket, connecting wire including luminaries, reflectors, covers, wire guards, choke, ballasts, control gear, Lamps, wiring etc. to make the luminaries fully functional complete as per specification. Note : All Lamps are daylight type.					
6.1	Not more than 40W Recessed LED Square Down lighter	556	Nos.			
6.2	Not more than 47W Recessed Circular LED down lighter	293	Nos.			
6.3	Not more than 10W LED Recess mounted down lighter	285	Nos.			
6.4	Not more than 18W Industrial batten with LED tube light	874	Nos.			
6.5	Not more than 42W Industrial batten with LED fixture	126	Nos.			

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
6.6	Not more than 10W LED Bulkhead fitting	60	Nos.			
6.7	External Façade LED strip lighting RGB type with all controllers, connectors, softwares. The cost shall be inclusive of supplying, installing, programming, training, testing and commissioning to satisfaction of project engineer/ Client.	5000	Rmt			
	<b>Sub Total of Light fixture's</b>					
<b>7</b>	<b>EARTHING</b>					
7.1	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe, with charcoal and salt as required.	128	Set			
7.2	Earthing with <b>copper earth plate</b> 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe, with charcoal and salt as required.	24	Set			
7.3	Earthing with G.I. earth pipe 4.5 mtr long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal and salt as required.	10	Set			
7.4	Supplying and laying 25 mm X 5 mm copper strip at 0.50 Meter below ground as strip earth electrode, including soldering, excavation and refilling the trench etc. as required.	200	Rmt			
7.5	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	400	Rmt			
7.6	Providing and fixing 4.00 mm dia copper wire on surface or in recess for loop earthing as required.	1500	Rmt			
7.7	Providing and fixing earth bus of 50 mm X 5 mm copper strip on surface for connections etc. as required.	500	Rmt			
7.8	Supplying and laying 25 mm X 6 mm G.I. strip at 0.50 Meter below ground as strip earth electrode, including soldering, excavation and refilling the trench etc. as required.	50	Rmt			
7.9	Supplying and laying 50 mm X 6 mm G.I. strip at 0.50 Meter below ground as strip earth electrode, including soldering, excavation and refilling the trench etc. as required.	2000	Rmt			

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
7.10	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	250	Rmt			
7.11	Providing and fixing 50 mm X 6 mm G.I. strip on surface or in recess for connections etc. as required.	2000	Rmt			
	<b>Sub Total of Earthing</b>					
<b>8</b>	<b>LIGHTNING PROTECTION</b>					
8.1	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate having 4 nos holes for fixing etc. complete as required.	40	Each			
8.2	Making jointing of G.I. tape (with another G I tape, base of the finial or any other metallic object) by reverting, sweating and soldering/ nut bolting of as required.	100	Each			
8.3	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	2530	Rmt			
8.4	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	24	Each			
8.5	Supplying and laying 25 mm X 6 mm G.I. strip at 0.50 Meter below ground as strip earth electrode, including soldering, excavation and refilling the trench etc. as required.	100	Rmt			
8.6	Providing and laying G.I. tape 32 mm X 6 mm from earth electrode directly in ground as required.	100	Rmt			
	<b>Sub Total of Lighting Protection</b>					
<b>9</b>	<b>MISCELLEANOUS</b>					
9.1	Supplying and laying ISI marked double wall HDPE pipe (IS 14930 Part II) having corrugation on the outer wall and plan surface on inner wall in ground below road, path etc at a depth not less than 40 cm and upto 90 cm including excavation, dismantling of road if required and refilling the trench with excavated material, ramming and making the surface good etc. as required.					
9.1.1	90mm Dia	50	Rmt			

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
9.1.2	120mm Dia	10	Rmt			
9.1.3	200mm Dia	10	Rmt			
9.2	Supplying and laying following size medium class G.I. pipe in ground below road, path etc at a depth not less than 40 cm and upto 90 cm including excavation, dismantling of road if required and refilling the trench with excavated material, ramming and making the surface good etc. as required.					
9.2.1	50mm Dia	50	Rmt			
9.2.2	80mm Dia	10	Rmt			
9.2.3	100mm Dia	10	Rmt			
9.3	Supplying and erection DANGER BOARD made MS sheet duly painted and made as per IE rules and specification.	12	Each			
	<b>Sub Total of Miscleanous</b>					
<b>10</b>	<b>SUBSTATION EQUIPMENT</b>					
10.1	Providing and erecting floor mounted sand/ water bucket stand for keeping 4 nos. of fire bucket, 1500 mm in length and 900 mm in height made out of 30 X 30 X 4 mm angle iron welded with 4 hooks and duly painted with one coat of zinc cromate primer and 2 coat of synthetic enamel paint of post box red colour etc complete.	5	Each			
10.2	Supplying G.I. Fire buckets with round bottom having at least 9 lit. capacity duly painted with one coat of zinc cromate primer and 2 coat of synthetic enamel paint of post box red colour and filled with dry sand and kept on provided wall hook or stand etc complete.	20	Each			
10.3	Supply and erecting ABC type 6 kg ISI marked Fire extinguishers on wall/ column including erecting bracket etc complete.	10	Each			
10.4	Supplying, installation, testing and commissioning of following sizes heavy duty (continuous running) exhaust fan in existing opening in wall including earthing etc. complete as required					
10.4.1	450 mm sweep	10	Each			



Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
10.5	Supplying and fixing PVC synthetic Elastomer Electrically insulating mat with Class A insulation confirming to IS 16562- 2006 and CPRI tested having 2.5 mm thickness upto 3.3 KV	170	SQ Mtrs			
10.6	<b>LIGHT FIXTURES</b>					
	Supply, installation, testing & commissioning of light fixtures complete with required mounting bracket, connecting wire including control gear, Lamps, wiring etc.. as per specification. Note : All Lamps are daylight type.					
10.6.1	Not more 18W Industrial batten with LED tube light	60	Nos.			
10.7	Wiring for light/ fan/ exhaust fan / call bell point with 1.5 sqmm FRLS PVC insulated stranded copper conductor single core cable in concealed PVC conduit, with 5 amp modular switch, modular base and cover plate, suitable size G.I. box and earthing the point with same size cable as required.					
10.7.1	Short Point	50	Each			
10.7.2	Medium Point	50	Each			
10.7.3	Long Point	50	Each			
10.7.4	Extra Long point I	50	Each			
10.7.5	Extra Long point II	50	Each			
10.7.6	Extra Long Point III	50	Each			
10.8	Wiring for power plug point with 2x4 sq mm FRLS PVC insulated copper conductor cable in existing surface / concealed, steel/ PVC conduit and providing and fixing modular type 16 Amp switch and 6 pin 16 amps socket outlet, modular base and cover plate, earthing the switch box and socket outlet with same size cable etc. as required.					
10.8.1	Short Point	50	Each			
10.8.2	Medium Point	50	Each			
10.8.3	Long Point	50	Each			

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
10.7.4	Extra Long point I	50	Each			
10.7.5	Extra Long point II	50	Each			
10.8.4	Extra Long Point III	50	Each			
10.9	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ concealed, steel/ PVC conduit/ PVC casing capping as required.					
10.9.1	1 x 1.5 Sq mm	200	Rmt			
10.9.2	1 x 2.5 Sq mm	200	Rmt			
10.9.3	3 X 4 sq. mm in 25mm conduit	200	Rmt			
10.10	Wiring for light plug point with 2x2.5 sq mm FRLS PVC insulated copper conductor cable in existing surface / concealed, steel/ PVC conduit and providing and fixing modular type 6 Amp switch and 3 pin 6 amps socket outlet, modular base and cover plate, earthing the switch box and socket outlet with same size cable etc. as required.					
10.10.1	Short Point	50	Each			
10.10.2	Medium Point	50	Each			
10.10.3	Long Point	50	Each			
10.7.4	Extra Long point I	50	Each			
10.7.5	Extra Long point II	50	Each			
10.10.4	Extra Long Point III	50	Each			
	<b>Sub Total of Substation Equipment</b>					
11	<b>EXTERNAL CABLE AND FEEDER PILLAR</b>					
11.1	<b>CABLES</b>					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
	Supplying and laying following sizes one number FRLS PVC insulated/ XLPE, PVC sheathed, steel armoured, aluminium conductor power cable of 1.1 KV grade in existing RCC/ HUME/ STONEWARE/ METAL/ HDPE/DWC pipe as required.					
11.1.1	4 x 10 sq. mm.	4400	Rmt			
11.1.2	4 x 16 sq. mm.	3500	Rmt			
11.2	<b>CABLES TERMINATION</b>					
	Supplying and making end termination with brass compression gland and aluminum lugs for following size armoured aluminum conductor power cable of 1.1 KV grade as required.					
11.2.1	4 x 10 sq. mm.	254	Each			
11.2.2	4 x 16 sq. mm.	690	Each			
11.3	Supplying and laying ISI marked double wall HDPE pipe (IS 14930 Part II) having corrugation on the outer wall and plan surface on inner wall in ground below road, path etc at a depth not less than 40 cm and upto 90 cm including excavation, dismantling of road if required and refilling the trench with excavated material, ramming and making the surface good etc. as required.					
11.3.1	75 mm Outer dia dia	50	Rmt			
11.3.2	90 mm Outer dia dia.	50	Rmt			
14.3.3	120 mm Outer dia. dia.	50	Rmt			
11.3.4	180 mm Outer dia. dia.	50	Rmt			
11.3.5	200 mm Outer dia. dia.	50	Rmt			
11.4	<b>DISTRIBUTION BOARDS</b>					
	Supplying and fixing on surface/ recess following way, 240 volts SP&N MCB distribution board of sheet steel phosphatized and powder painted complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, including interconnections, earthing etc. as required. (But without MCB/RCCB/Isolator)					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
11.4.1	12 Way Double Door (DB-TOI-2-00,DB-TOI-1-00,DB-SS-E4A-00,DB-SS-E4B-00,DB-SS-E5A-00,DB-SS-E5B-00,DB-SS-E9A-00,DB-SS-E9B-00,DB-SS-E10A-00,DB-SS-E10B-00)	11	Each			
	Supplying and fixing SP MCB, 240 volts, 'C' series, suitable for inductive load in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
11.4.2	6 amps to 32 amps	88	Each			
11.4.3	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	44	Each			
	Supplying and fixing following rating, 240 volts TWO POLE ISOLATOR in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
11.4.4	40 Amps	11	Each			
	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current up to 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
11.4.5	25 Amps	11	Each			
11.5	Supplying and fixing DP sheet steel enclosure on surface/ recess along with 25/32amps 240 volts "C" curve DP MCB complete with connections, testing and commissioning etc. as required.	279	Each			
11.6	Supplying, Installing, testing and Commissioning of CSEB Approved 1Ph Energy Meter upto 60A on surface complete with connections etc. as required.	351	Each			

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
11.7	Supply, installation, testing & commissioning of outdoor control Feeder pillar 415V ,3 phase,50 Hz with neutral bus fabricated from 14 SWG MS sheet with appropriate size supporting angle complete with 7 times processing and powder coating. The control panel shall have two compartments one with energy meter and main incomer MCCB, contactor timer & the other compartment will house MCB for Distribution. The job includes complete internal wiring 2 nos of earth studs on panel. The panel shall be IP55 with panel type locking arrangement. Further the job includes installation of pillar by providing cement concrete foundation with height 450mm above ground level complete with excavation, plastering, curing painting, installation etc..					
11.7.1	External Lighting Feeder Pillar ( Feeder Pillars For E4, E5, E9 & E10)	4	Each			
	<b>Incoming</b>					
	63 amps 4P Isolator with following accessories:					
	25 amps DP RCD Per Phase with following accessories:					
	0-500 volts digital electronic volt meter with selector switch through 415 V / $\sqrt{3}$ : 110 V / $\sqrt{3}$ PT, primary and secondary of PT shall be protected by 2 amps TP MCB's.					
	0-63 Amps digital electronic ammeter with selector switch and 63/5 amps 15 VA, CL 1 CTs .					
	Phase indicating light through 415 / 110 V PT, primary & secondary of PT shall be protected by 2 amps SP MCB's.					
	24 Hrs Timer with contactor					
	Bus Bars					
	80 amps (25 KA) 4 pole Aluminium bus bars with heat shrinkable insulation sleeve.					
	Outgoing including spares					
	24 Nos 16 Amps DP MCB					
	5 Nos 16 Amps 4P MCB					
	<b>Sub Total for External Cable And Feeder Pillar</b>					
<b>12</b>	<b>ISOLATORS CABLES &amp; TERMINATIONS FOR RETAIL SHOPS &amp; OFFICES</b>					
<b>12.1</b>	<b>ISOLATORS &amp; METERS</b>					
12.1.1	Supplying and fixing DP sheet steel enclosure on surface/ recess along with 25/32amps 240 volts "C" curve DP MCB complete with connections, testing and commissioning etc. as required.	770	Each			

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
12.1.2	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 80 amps 415 volts TPN MCCB complete with connections, testing and commissioning etc. as required.	2	Each			
12.1.3	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 63 amps 415 volts "C" curve TPN MCB complete with connections, testing and commissioning etc. as required.	68	Each			
12.1.4	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 40 amps 415 volts "C" curve TPN MCB complete with connections, testing and commissioning etc. as required.	224	Each			
12.1.5	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 16/25/32amps 415 volts "C" curve TP MCB complete with connections, testing and commissioning etc. as required.	151	Each			
12.1.6	Supplying, Installing, testing and Commissioning of CSEB Approved 3Ph 4 Wire Energy Meter upto 100A on surface complete with connections etc. as required.	160	Each			
12.1.7	Supplying, Installing, testing and Commissioning of CSEB Approved 1Ph Energy Meter upto 60A on surface complete with connections etc. as required.	387	Each			
12.2	<b>CABLES FOR SHOPS AND OFFICES</b>					
	Supplying and laying following sizes one number FRLS PVC insulated/ XLPE, PVC sheathed, steel armoured, aluminium conductor power cable of 1.1 KV grade on surface/ existing cable tray with 1 mm thick GI saddle as required.					
12.2.1	3 x 10 sq. mm.	15811	Rmt.			
12.2.2	4 x 4 sq. mm.	7027	Rmt.			
12.2.3	4 x 10 sq. mm.	252	Rmt.			
12.2.4	4 x 16 sq. mm.	5586	Rmt.			
12.3	Supplying and laying following sizes one number FRLS PVC insulated/ XLPE, PVC sheathed, steel armoured, aluminium conductor power cable of 1.1 KV grade on surface/ existing cable tray with 25x3 mm M.S flat clamp and steel dash fastener/ G.I. bolts and nuts as required.					

Sr. No.	Item Description	Qty	Unit	Rate(In INR) (In Figure)	Rate(In INR) (In Words)	Amount
12.3.1	3.5 x 50 sq. mm.	1696	Rmt.			
12.3.2	3.5 x 70 sq. mm.	65	Rmt.			
12.4	<b>CABLE TERMINATIONS</b>					
	Supplying and making end termination with brass compression gland and aluminum lugs for following size armoured aluminum conductor power cable of 1.1 KV grade as required.					
12.4.1	3 X 10 sq. mm	756	Each			
12.4.2	4 X 4 sq. mm	282	Each			
12.4.3	4 X 10 sq. mm	20	Each			
12.4.4	4 X 16 sq. mm	448	Each			
12.4.5	3½ X 50 sq. mm	136	Each			
12.4.6	3½ X 70 sq. mm	4	Each			
	<b>Sub Total of Isolators cables &amp; Terminations</b>					
<b>Total Amount of Work</b>						