



ASSAM ELECTRICITY GRID CORPORATION LIMITED

Regd. Off.: BIJULEE BHAWAN (FIRST FLOOR) PALTANBAZAR; GUWAHATI - 781001
CIN: U40101AS2003SGC007238

PHONE: 0361-2739520 FAX NO.0361-2739513
Web: www.aegcl.co.in

No. AEGCL/MD/AIFA/ Tech-489/2011-12/SS&TL/Pt-1/22

Dtd: 10.09.2019

CORRIGENDUM & TIME EXTENSION - I

IFB No. : MD/AEGCL/AIFA/Tech-489/2011-12/SS&TL/IFB
Bid Identification No. MD/AEGCL/AIFA/Tech-489/2011-12/SS&TL/BID

The bid identified against the above referred IFB and Bid identification no. is amended to the following extent -

VOLUME - I :

Section-1, APPENDIX TO ITB - 2

Evaluation and Qualification Criteria (ECQ).

The clause **2.1.1 Specific Experience** is amended to be read as follows:

2.1.1 Specific Experience

(a) Contracts of Similar Size and Nature

Criteria	Compliance Requirements			Documents	
	Single Entity	Joint Venture			
Requirement		All Partners Combined	Each partner	At Least One partner	Submission Requirements
Participation as contractor (sole or lead partner in a JV or as subcontractor) in contracts of the following nature within last 10 (ten) years that have been successfully completed: At least one sub-station with voltage level of 132kv having one or more power transformers and at least one 132kV line bay & Construction of at least 2 ckt km length of transmission line (132kv or above voltage level).	Must meet requirement	Must meet requirement	Not applicable	Not Applicable	Form EXP - 2



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VOLUME - II :

1. SECTION - 6

TECHNICAL SPECIFICATION OF OUTDOOR CURRENT AND POTENTIAL TRANSFORMERS:

The 132kV CT 132Kv switchyard CT (feeders, bus coupler, transformers) should be 600-300/1-1-1-1 (four cores, 0.2-5P-PS-PS) and 33Kv switchyard CT (feeders, bus coupler, transformers) should be 1200-600/1-1-1 (three cores, 0.2-5P-PS).

The 132kV PT will be two winding, (132kV/ $\sqrt{3}$ /110/ $\sqrt{3}$ /110/ $\sqrt{3}$ V), (0.2-3P).

2. SECTION - 8

TECHNICAL SPECIFICATION OF ISOLATORS:

The 145kV Isolator shall be of Centre Break type. However, 33Kv Isolators will be Double Break Centre post rotating type.

3. The Column for "Qty" is hidden in the **BoQ1 (Schedule No 1: SCHEDULE OF QUANTITY FOR SUBSTATION (SUPPLY))** in the e-tender website.

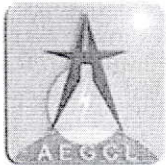
The BoQ1 showing the Qty is attached herewith as **Annexure-II** for reference of the bidders.

The Quantities are same as in the BoQ2 (Schedule No 1: SCHEDULE OF QUANTITY FOR SUBSTATION (FREIGHT AND INSURANCE)).

It may also be mentioned here that the formula(Qty x Unit Price) is already configured in all the BoQ sheets (including BoQ1). The bidders are requested to quote their rates in the column provided for "Unit Price" and the Total Amount shall be calculated and reflected in the column for "Total Amount".

4. In BoQ1, BoQ2, BoQ3, the text in **Item descriptions** in the SI Nos. listed below may be read as follows:

- | | |
|-------|---|
| 2.2 | " 145 KV, 1250 A, 40 kA for 1 sec, 3-Ph gang operated Centre Break , outdoor type , motor operated Disconnecter (Isolator) complete without solid core post Insulator." |
| 2.5 | "145 kV, 1-ph, Potential Transformer (PT) on BUS (132kV/ $\sqrt{3}$ /110/ $\sqrt{3}$ /110/ $\sqrt{3}$ V) as per the technical specification" |
| 5.6 | "36 kV Neutral Current Transformer for 132/33 kV transformer on 33 kV side, CTR 1200-600/1 -1-1A, as per Technical Specifications of Transformer LV CT " |
| 10.02 | "75 x 12 mm GI Flat for Equipment Earthing like CT,CB, Isolator , LA, BPI & Tower Earthing, riser below ground etc. (7.1kg/m) |
| 10.07 | "Solid earth electrode (40 mm dia MS rod) for earthing connections of LA, CVT & lightning masts, for transformer neutrals, 40mm dia GI pipe with treated earth pit." |



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5. For reference of the bidder, Bushing CT specifications may also be attached as mentioned in Annexure-I.

6. The tender submission deadline also may be extended as follows:
Tender submission date: **12.00 hrs on 26.09.2019**
Tender opening date: **14.00 hrs on 27.09.2019**

All other terms and conditions shall remain same.

Bushy
10/9/19

Chief General Manager(PP&D)
Assam Electricity Grid Corporation Ltd
Bijulee Bhawan, Paltanbazar, Guwahati – 1

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Memo No : MD/AEGCL/AIFA/Tech-489/2011-12/SS&TL/Pt-1/22(a)

dtd: 10.09.19

Copy to:-

1. The AGM-III, HQ,AEGCL :-for necessary action for uploading on AEGCL's website.

Bushy
10/9/19

Chief General Manager (PP&D).

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Annexure I

*** Bushing CT specifications should be as follows:

SI No	Parameter	HV Side	LV Side	HV Neutral End Side	LV Neutral End Side
1	Type	Ring	Ring	Ring	Ring
2	Ratio				
	Core-I	300/1	1200/1	300/1	1200/1
	Core-II	300/1	1200/1		
	Core-III	257.3/1.7,1.9,2.0	874.7/1.7,1.9,2.0		
3	Accuracy class			TPS, k=1.5	TPS, k=1.5
	Core-I	0.2, (ISF≤5)	0.2, (ISF≤5)		
	Core-II	TPS, k=15	TPS, k=1.5		
	Core-III	5	5		

Validate

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Item Rate BoQ

Tender Inviting Authority: CGM(PP&D), AEGCL

Name of Work: **TURNKEY CONSTRUCTION OF 132/33KV, 2X50 MVA SUB-STATION AT NATHKUCHI ALONG WITH ASSOCIATED TRANSMISSION LINES UNDER AIFA SCHEME**

Contract No: Nil

Name of the Bidder/ Bidding Firm / Company :						
Schedule No 1: SCHEDULE OF QUANTITY FOR SUBSTATION (SUPPLY)						
(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)						
NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	Unit Price (exclusive of taxes) In Figures To be entered by the Bidder in Rs. P	TOTAL AMOUNT (Without Taxes) in Rs. P	TOTAL AMOUNT In Words
1	2	4	5	13	53	55
1	Power transformer					
1.1	40/50 MVA, 132/33 kV, 3-Ph, YNyn0, Z =10 %, ONAN/ONAF with copper wound Power Transformer with OLTC(+5% to -15% in steps of 1.25%) , RTCC panel including all cabling & 10% spare oil.The Transformer shall be suitable for single / twin ACSR MOOSE Conductor termination on HV and twin ACSR MOOSE conductor on LV side. The transformer will be supplied with Bushing mounted NCT on HV & LV side as per the CT ration given in the SLD.The Transformer shall be suitable for outdoor installation & complete with all accessories to meet the technical specification.	2	Nos		0.00	INR Zero Only
1.2	250 kVA, 33/0.433 kV, Copper Wound, 3ph, Dyn-11, Z=4% outdoor type "Station Transformer" with OFF Circuit Tap Changer , -5% to + 5 % in steps for 2.5 % & including 10 % spare oil.MV connection shall be through single ACSR MOOSE Conductor, LV Side shall be connected through XLPE Insulated LT cable.	2	Nos		0.00	INR Zero Only
2	132kV Equipment					
2.1	145 kV, 3150 A, SCR 40 kA for 1 sec, SF6 Circuit Breaker, outdoor type, 3-Ph gang operated complete with operating mechanism & support structure with 10 % spare SF-6 gas.	7	Set		0.00	INR Zero Only
2.2	145 KV, 1250 A, 40 kA for 1 sec, 3-Ph gang operated Double Break Centre Post rotating , outdoor type , motor operated Disconnecter (Isolator) complete without solid core post Insulator.					
2.2.1	Without earth switch	6	Set		0.00	INR Zero Only
2.2.2	With one earth switch(manual)	12	Set		0.00	INR Zero Only
2.2.3	With Two earth switch(manual)	8	Set		0.00	INR Zero Only

2.3	145 KV Outdoor type, live tank, single phase Current Transformer as per the details below: The CT shall meet the technical specification & other design requirement as per design requirement.					
2.3.1	Transformer feeder CTR : 600-300/1-1-1-1 A	6	Nos		0.00	INR Zero Only
2.3.2	Line & Bus Coupler CTR: 600-300/1-1-1-1 A	15	Nos		0.00	INR Zero Only
2.4	145 kV, 1-ph, Capacitor Voltage Transformer (CVT) for 132 kV Incoming Line (132kV/ $\sqrt{3}$ /110/ $\sqrt{3}$ /110/ $\sqrt{3}$ /110/ $\sqrt{3}$ V) as per technical specification.	12	Nos		0.00	INR Zero Only
2.5	145 kV, 1-ph, Potential Transformer (PT) on BUS (132kV/ $\sqrt{3}$ /110/ $\sqrt{3}$ /110/ $\sqrt{3}$ V110/ $\sqrt{3}$ V) as per the technical specification.	6	Nos		0.00	INR Zero Only
2.6	120 kV, 10 kA, Metal Oxide type, heavy duty, station class 3, Lightning Arrestor complete with Surge Counter & flexible copper connecting lead.	18	Nos		0.00	INR Zero Only
2.7.1	145kV BPI for Buswork	28	Nos		0.00	INR Zero Only
2.7.2	145kV BPI for Isolators	297	Nos		0.00	INR Zero Only
2.8	CT, CVT & PT JB complete with 30 nos Disconnecting type Terminals Blocks, complete with wiring.	13	Nos		0.00	INR Zero Only
2.9	Bay Marshalling Kiosk, made of 2.5 mm. thick sheet steel, protection class IP 55 complete with 250 TB	7	Nos		0.00	INR Zero Only
3.0	String Insulator Hardware for 132 kV					
3.01	Single Tension Insulator assembly suitable for 11 kV, 90 kN Disc Insulator with all hardwares accessories for twin ACSR MOOSE conductor (without disc Insulator) with turn buckle.	24	Set		0.00	INR Zero Only
3.02	Single Tension Insulator assembly suitable for 11 KV, 90 kN Disc Insulator with all hardwares accessories for twin ACSR MOOSE conductor (without disc Insulator) without turn buckle.	24	Set		0.00	INR Zero Only
3.03	Single Suspension Insulator assembly suitable for 11 KV, 70 kN Disc Insulator with all hardwares accessories for twin ACSR MOOSE conductor for through type (without disc Insulator)	12	Set		0.00	INR Zero Only
3.04	Single Suspension Insulator assembly suitable for 11 KV, 70 kN Disc Insulator with all hardwares accessories for single ACSR MOOSE conductor for through type (without disc Insulator).	15	Set		0.00	INR Zero Only
3.05	Single Suspension Insulator assembly suitable for 11 KV, 70 kN Disc Insulator with all hardwares accessories for single ACSR MOOSE conductor for Drop type (without disc Insulator).	27	Set		0.00	INR Zero Only
3.06	Single Tension Insulator assembly suitable for 11 KV, 90 kN Disc Insulator with all hardwares accessories for single ACSR MOOSE conductor (without disc Insulator) with turn buckle.	39	Set		0.00	INR Zero Only
3.07	Single Tension Insulator assembly suitable for 11 KV, 90 kN Disc Insulator with all hardwares accessories for single ACSR MOOSE conductor (without disc Insulator) without turn buckle.	24	Set		0.00	INR Zero Only
3.08	Single Suspension Insulator assembly suitable for 11 KV, 70 kN Disc Insulator with all hardwares accessories for Twin ACSR MOOSE conductor for Drop type	6	Set		0.00	INR Zero Only
3.09	90 KN Disc Insulator , B & S type for the String Insulator (Tension) with 5% spare	1165	Nos		0.00	INR Zero Only
3.1	70 KN Disc Insulator (Suspension) with 5% spare	567	Nos		0.00	INR Zero Only
3.11	ACSR MOOSE conductor	3700	M		0.00	INR Zero Only

4.0	Terminal connectors for 132kV side. The Quantity of Terminal connectors shall be as per substation layout & shall be supplied as per technical specification as per individual equipment requirement					
4.01	Terminal connector for 145kV Isolator to receive single ACSR MOOSE Conductor.	198	Nos		0.00	INR Zero Only
4.02	Terminal connector for 145kV SF6 Circuit Breaker to receive single ACSR MOOSE Conductor	42	Nos		0.00	INR Zero Only
4.03	Terminal connector for 145kV Current Transformer terminal to receive single ACSR MOOSE Conductor	42	Nos		0.00	INR Zero Only
4.04	Terminal connector for 145kV CVT terminal to receive Single ACSR MOOSE Conductor	12	Nos		0.00	INR Zero Only
4.05	Terminal connector for 145kV PT terminal to receive Single ACSR MOOSE Conductor	6	Nos		0.00	INR Zero Only
4.06	Terminal connector for 145kV BPI to receive single ACSR MOOSE Conductor	24	Nos		0.00	INR Zero Only
4.07	Terminal connector for Wave-trap to receive single ACSR MOOSE Conductor	16	Nos		0.00	INR Zero Only
4.08	Terminal connector for 120kV Lightning Arrester to receive Single ACSR MOOSE Conductor	18	Nos		0.00	INR Zero Only
4.09	Transformer Bushing Connector (145kV Side)	6	Nos		0.00	INR Zero Only
4.1	Terminal connector for NCT suitable for 50x6 mm CU flat	2	Nos		0.00	INR Zero Only
4.11	Spacer for twin ACSR MOOSE with 250mm sub conductor spacing, rigid	90	Nos		0.00	INR Zero Only
4.12	C-Wedge connector for twin ACSR MOOSE	48	Nos		0.00	INR Zero Only
4.13	C-Wedge connector for single ACSR MOOSE	63	Nos		0.00	INR Zero Only
4.14	T- type connector suitable for single ACSR MOOSE through and same T-off	48	Nos		0.00	INR Zero Only
4.15	Shield Wire & Accessories					
4.15.1	7/3.15 mm GSS wire for shielding	250	M		0.00	INR Zero Only
4.15.2	Tension Fittings for 7/3.15mm Earth wire	28	Nos.		0.00	INR Zero Only
4.15.3	Earth Wire Connector (PG Clamps)	20	Nos.		0.00	INR Zero Only
4.15.4	Cleat Clamp for clamping 7/3.15 mm GSS wire on to the Structure	150	Nos.		0.00	INR Zero Only
4.15.5	Pad Clamp for clamping 7/3.15 mm GSS wire on to the Structure for earthing	30	Nos.		0.00	INR Zero Only
5.0	33 kV Equipment <i>The equipment shall be suitable for outdoor installation and shall meet the technical requirement as per specification for 33 kV , 50 Hz, 31. kA/3 Sec., Creepage as 25 mm / Kv</i>					
5.01	36 kV, 1250 A, SCR 31.5/3sec, SF6, Outdoor type, 3-Ph gang operated complete with operating mechanism & support structure for Incoming Feeders & Bus coupler.	3	Set		0.00	INR Zero Only
5.02	36 kV, 1250 A, SCR 31.5/ 3 sec , SF6, Outdoor type, 3-Ph gang operated complete with operating mechanism & support structure for Outgoing Feeders.	6	Set		0.00	INR Zero Only
5.3	36 KV,1250 A, 3-Ph gang operated, Outdoor type, Double Break centre Post rotating outdoor type motor operated Disconnecter (Isolator) without solid core Post Insulator.					
5.3.1	Without earth switch for Incomer from Transformer	2	Set		0.00	INR Zero Only
5.3.2	With one earth switch for Bus Coupler	2	Set		0.00	INR Zero Only
5.4	Outdoor type 36 kV, 630 A, 3-Ph gang operated, outdoor type, Double Break centre Post rotating outdoor type motor operated Disconnecter (Isolator) with solid core Post Insulator.					
5.4.1	With one earth switch	14	Set		0.00	INR Zero Only

5.5	36 kV Out door type, live tank, single phase Current Transformers as given below:The CT shall meet the technical specification & other design requirements.					
5.5.1	36 kV Transformer side & Bus Coupler CTR:1200-600 /1-1-1 A	9	Nos		0.00	INR Zero Only
5.5.2	36 kV outgoing Line Feeder CTR:1200-600/1-1-1 A	18	Nos		0.00	INR Zero Only
5.6	15 kV Neutral Current Transformer for 132/33 kV transformer on 33 kV side, CTR1200-600/1-1A	2	Nos.		0.00	INR Zero Only
5.7	Outdoor type 36 kV ,1-ph, Potential Transformer(PT) (33kV/ $\sqrt{3}$ /110/ $\sqrt{3}$ /110/ $\sqrt{3}$ V) as per technical specification	6	Nos.		0.00	INR Zero Only
5.8	30 kV,10 kA, Metal Oxide type, heavy duty, station class Lightning Arrestor complete with Surge Counter & copper connecting lead	30	Nos.		0.00	INR Zero Only
5.9.1	33 kV, 8 kN Post Insulator (Bus works)	33	Nos.		0.00	INR Zero Only
5.9.2	33 kV, 6 kN Post Insulator (Isolators)	29	Nos.		0.00	INR Zero Only
5.10	100Amp, Horn gap fuse	2	Set		0.00	INR Zero Only
5.11	CT & PT JB complete with 30 nos Disconnecting type Terminal Blocks, complete with wiring.	11	Nos.		0.00	INR Zero Only
5.12	Bay Marshalling Kiosk, made of 2.5 mm. thick sheet steel, protection class IP 55 complete with 200 TB.	9	Nos.		0.00	INR Zero Only
6.0	Terminal connectors 33 kV side. The quantity of Terminal connectors shall be as per substation layout & shall be supplied as per technical specification as per individual equipment requirement					
6.01	Terminal Connector for 36 kV Isolator to receive twin ACSR MOOSE Conductor	24	Nos.		0.00	INR Zero Only
6.02	Terminal Connector for 36 kV Isolator to receive Single ACSR MOOSE Conductor	96	Nos.		0.00	INR Zero Only
6.03	Terminal Connector for 36 kV SF6 Circuit Breaker to receive twin ACSR MOOSE Conductor	18	Nos.		0.00	INR Zero Only
6.04	Terminal Connector for 36 kV SF6 Circuit Breaker to receive Single ACSR MOOSE Conductor	36	Nos.		0.00	INR Zero Only
6.05	Terminal Connector for 36kV Current Transformer to receive twin ACSR MOOSE Conductor	18	Nos.		0.00	INR Zero Only
6.06	Terminal Connector for 36kV Current Transformer to receive Single ACSR MOOSE Conductor	36	Nos.		0.00	INR Zero Only
6.07	Terminal Connector for NCT suitable for 50x6 mm CU flat	2	Nos.		0.00	INR Zero Only
6.08	Terminal Connector for 30 kV Lightning Arrestor to receive Single ACSR MOOSE Conductor	30	Nos.		0.00	INR Zero Only
6.09	Terminal Connector for 36 kV PT Connector to receive Single ACSR MOOSE Conductor	6	Nos.		0.00	INR Zero Only
6.10	Transformer LV side Bushing Clamp (40/50 MVA Trafo)	6	Nos.		0.00	INR Zero Only
6.11	Transformer MV side Bushing Clamp (250 kVA Trafo)	6	Nos.		0.00	INR Zero Only
6.12	3 Inch IPS AL Tube for 33kV bus	680	Kg		0.00	INR Zero Only
6.13	Terminal connector for Bus PI suitable for 3 Inch IPS AL Tube	21	Nos.		0.00	INR Zero Only
6.14	Terminal connector for Bus PI suitable for twin ACSR moose conductor	2	Nos.		0.00	INR Zero Only
6.15	Terminal connector for Bus PI suitable for single ACSR moose conductor	9	Nos.		0.00	INR Zero Only
6.16	Tee connector suitable for interconnection of twin ACSR moose conductor to Al tube.	6	Nos.		0.00	INR Zero Only
6.17	Tee connector suitable for interconnection of Single ACSR moose conductor to Al tube.	21	Nos.		0.00	INR Zero Only
6.18	Spacer for twin ACSR MOOSE with 350 mm sub conductor spacing fixed	20	Nos		0.00	INR Zero Only

6.2	End Caps and couplers/bends for 3Inch IPS AL Tube	7.5	Kg		0.00	INR Zero Only
6.21	Shield Wire Accessories					
6.21.1	Lightning mast with spike (Tubular pole)	2	Nos.		0.00	INR Zero Only
7.0	Control , Protection & Metering equipment					
7.1	Control and Relay Panel					
7.1.0	Indoor floor mounted, simplex type Control and Relay Panels, with mimic & annunciation panel for 132kV system as per specification comprising of the C & R Panels shall be complete with Numerical Relays and ABT Meters as per the Technical specifications & shall be compatible for SCADA/ SAS as open protocol.					
7.1.1	132 kV Line Protection & control Panel	4	Nos.		0.00	INR Zero Only
7.1.2	132/33 kV Transformer Protection & Control Panel	2	Nos.		0.00	INR Zero Only
7.1.3	132 kV Bus Coupler Protection & Control Panel	1	Nos.		0.00	INR Zero Only
7.1.4	Metering Panel for Lines	2	Nos.		0.00	INR Zero Only
7.2	Indoor floor mounted, simplex type control and relay panels, with mimic & annunciation panel with ABT Meters for 33kV system as per specification and data sheet comprising of :					
7.2.1	33KV Line Protection & Control Panel	6	Nos.		0.00	INR Zero Only
7.2.2	33KV Transformer I/C Protection & Control Panel on 33 k V side of Power Transformer	2	Nos.		0.00	INR Zero Only
7.2.3	33KV Protection & Control Panel for Bus Section The control, metering & protection system shall be complete with Numerical relays & compatible for performing the functions as per the electrical specifications & shall be fully compatible with substation automation /SCADA.	1	Nos.		0.00	INR Zero Only
8.0	PLCC Equipment					
8.1	EPAX(8x24) with 24 nos. telephone, cable etc	1	Nos		0.00	INR Zero Only
8.2	Digital Protection Coupler with PLC Terminal	4	Nos		0.00	INR Zero Only
8.3	LMU / LMDU	4	Nos		0.00	INR Zero Only
8.4	HF Cable 75 ohms(balanced)	1.2	Km		0.00	INR Zero Only
8.5	132 kV, 800A wave trap for 40 kA for 1 sec. Wave trap will be CVT mounted.	8	No.		0.00	INR Zero Only
9.0	Substation Automation					
9.1	Substation Automation & SCADA system (as per the technical specification) along with Ethernet, Data Concentrator/ BCU , communication & data server, local work station with necessary accessories, hardware /software, fiber optic cabling & time synchronization equipment. Substation automation system of 132/33kV substations including hardware for present bays(132KV 8 Nos. bays , 33kV 10 no bays,) and software (for present bays and 132kV 3 no & 33kv 2 no future bays) along with associated equipment for each bay The system shall be complete with Numerical Relay compatible with substation automation for 132 kV & 33 kV system. The numerical relays along with other measuring / indicating Instruments shall be part of the integrated SCADA system. The complete system of this Substation shall be integrated on SCADA which shall be further the communicable to Master control center & further communicate to RLDC.	1	Nos.		0.00	INR Zero Only
10.0	Earthing and Lightning protection material					
10.01	65 x 12 mm MS flat for Main Earth mat & Auxilliary Mat	6500	Mtr.		0.00	INR Zero Only
10.02	75 x 12 mm GI Flat for Equipment Earthing like CT,CB, Isolator , LA, BPI & Tower Earthing,	4000	Mtr.		0.00	INR Zero Only

10.03	75 x 12 GI Flat for earthing of Transformer body	70	Mtr.		0.00	INR Zero Only
10.04	50 x 6 mm GI Flat for earthing of Marshalling Boxes, Panel, Junction boxes, Distribution Board, Battery Charger etc. (2.36kg/m)	1100	Mtr.		0.00	INR Zero Only
10.05	50x6 mm MS flat for cable trench earthing.	500	Mtr		0.00	INR Zero Only
10.06	50 x 6 mm Copper flat for earthing of Transformer Neutral on HV as well LV Side. (2.69kg/m)	100	Mtr.		0.00	INR Zero Only
10.07	40 mm Dia, 6.5 mtr long GI rod earth electrode (perforated) for earthing of LA, CVT, Lightning Mast, Shield Wire Transformer Neutral	110	Nos.		0.00	INR Zero Only
10.08	40 mm Dia 6.5 mtr long GI. Rod Earth Electrode at corners of Main Earth Mat, Gate & control room Earthing	18	Nos.		0.00	INR Zero Only
10.09	Lightning spikes for building which 100 mm dia GI Pipe, 1.5 mtr to be mounted on insulated base on building top and connected with 50x6 mm GI Flat.	56	Nos.		0.00	INR Zero Only
10.10	50x6 mm GI flat for all building spikes	1040	Mtr.		0.00	INR Zero Only
10.11	40 mm Dia 6.5 mtr long GI. Rod Earth Electrode for building spikes earthing	56	Nos.		0.00	INR Zero Only
10.12	Electrolytic grade copper plate 600mmx600mmx6mm for Transformer Neutral earthing to be provided in 6.5 mtr deep earth pit to be filled with salt & charcoal (as per standard earthing Practices)(Power trafo and aux. trafo)	12	Nos.		0.00	INR Zero Only
11.0	Note: The quantity of GI Flat/MS rod for earthing & lightning protection is approximate. The exact quantity to be arranged as per GFC drawing and as per site requirement					
11.1	Lattice type Structural Steel					
11.2	Tower and Beams					
11.3	Structural steel for Tower and beams (50% of MS and 50% of HT)	63.38	MT		0.00	INR Zero Only
12.0	Hardwares, nuts, bolts and spring washer	4.39	MT		0.00	INR Zero Only
12.1	Foundation Nuts and bolts	4.05	MT		0.00	INR Zero Only
12.2	Equipment					
12.3	Structural steel for Equipment	70.23	MT		0.00	INR Zero Only
12.4	Hardwares, nuts, bolts and spring washer	4.99	MT		0.00	INR Zero Only
12.5	Foundation Nuts and bolts for equipment	5.59	MT		0.00	INR Zero Only
12.6	132 KV, Lightning cum lighting mast, 30 mtr high with lighting platform at 17 mtrs & 1.5 mtr spike at top	33	MT		0.00	INR Zero Only
13.01	Hardware, Nuts & bolts for LM	1.32	MT		0.00	INR Zero Only
13.02	Foundation Bolts	0.888	MT		0.00	INR Zero Only
13.03	Cable and accessories					
13.031	19/33 kV (earthed system), 3Core 300 sqmm., AL Conductor, XLPE Insulated, PVC Sheathed, Armoured PVC Outer Sheath Cable for 33 kV outgoing feeder(200 meter/feeder).	1320	Mtr		0.00	INR Zero Only
13.032	33 kV outdoor termination kit	6	Set		0.00	INR Zero Only
14.0	LT Power Cable					
14.01	AC Circuit 1.1 kV PVC Insulated 'PVC sheathed, GI wire / steel strip armoured, Aluminum/Copper Conductor cable of the following sizes:					
14.02	Station transformer LV side to Main LVAC Board 3 1/2 core x 300 sq.mm AL (XLPE)cable from Station Transformer to LVAC Board	200	Mtr		0.00	INR Zero Only
14.03	3 1/2 core x 150 Sqmm Al cable for oil filtration	150	Mtr.		0.00	INR Zero Only
14.04	3 1/2 core x 70 Sqmm Al cable for outdoor illumination & for battery charger	525	Mtr.		0.00	INR Zero Only
14.05	2 core x 16 Sqmm Cu cable for BMK, Trafo MB, fire panel & LDB	1100	Mtr.		0.00	INR Zero Only
14.06	2 Core 6 Sqmm Cu cable for CT & CVT JB	1000	Mtr.		0.00	INR Zero Only
14.07	4 Core 16 sqmm Al cable for panel illumination	150	Mtr.		0.00	INR Zero Only
14.08	4 Core 16 sqmm Al cable for outdoor illumination	900	Mtr		0.00	INR Zero Only

14.09	3 Core 2.5 sqmm CU cable fo outdoor illumination	1150	Mtr.		0.00	INR Zero Only
14.1	DC Circuit					
14.11	2 Core x 16 sqmm Cu cable for miscellaneous	1500	Mtr.		0.00	INR Zero Only
14.12	2 Core x 50 sqmm Cu cable for DCDB to battery charger(Flexible multi strand)	200	Mtr.		0.00	INR Zero Only
14.13	1 C X 70 Sqmm Cu cable for Charger to battery (Flexible multi strand)	200	Mtr.		0.00	INR Zero Only
14.14	Termination with double compression Gland and Al lugs for 3 ½ core x 400 sqmm. Al cable.	1	Lot		0.00	INR Zero Only
14.15	Termination with double compression Gland and lugs 3 1/2 core x 150 sqmm. Al. cable	1	Lot		0.00	INR Zero Only
14.16	Termination with double compression Gland and lugs 2 core x 16 sqmm. Cu. Cable	1	Lot		0.00	INR Zero Only
14.17	Termination with double compression Gland and lugs 3 1/2 core x 150 sqmm. Al. cable	1	Lot		0.00	INR Zero Only
14.18	Termination with double compression Gland and lugs for 2core x 6 sqmm. Cu cable	1	Lot		0.00	INR Zero Only
14.19	Termination with double compression Gland and lugs for 4core x 16 sqmm.. Cable	2	Lot		0.00	INR Zero Only
14.2	Termination with double compression Gland and lugs for 2core x 16 sqmm.Cu cable	1	Lot		0.00	INR Zero Only
14.21	Termination with double compression Gland and lugs for 2core x 35 sqmm.. Cu cable	1	Lot		0.00	INR Zero Only
14.22	Termination with double compression Gland and lugs for1 core x 70 sqmm.. Crucible	1	Lot		0.00	INR Zero Only
14.23	Termination with double compression Gland and lugs for 3 corex 2.5 sqmm.Cu cable	1	Lot		0.00	INR Zero Only
15	Copper Control Cable					
15.01	1100 V grade, PVC Insulated, PVC sheathed, steel round wire armoured, stranded control cables of the following sizes:					
15.02	2 core 2.5 sqmm.	700	Mtr		0.00	INR Zero Only
15.03	2 core 4 sqmm.	270	Mtr		0.00	INR Zero Only
15.04	2 Core 6 sqmm.	200	Mtr		0.00	INR Zero Only
15.05	4Core 4 sqmm.	4200	Mtr		0.00	INR Zero Only
15.06	4 core 2.5 sqmm.	7100	Mtr		0.00	INR Zero Only
15.07	7 core 2.5 sqmm.	2900	Mtr		0.00	INR Zero Only
15.08	12 core 2.5 sqmm.	7900	Mtr		0.00	INR Zero Only
15.09	19 Core 2.5 sqmm.	6500	Mtr		0.00	INR Zero Only
15.1	Double compression Glands and terminations (including ferruling, suitable Cu Lugs to meet the system requirements) for 1100 V grade PVC Insulated multicore Copper stranded conductor control cables of sizes: (2 core 2.5 sqmm.,2 core 4 sqmm., 2 Core 6 sqmm., 4Core 4 sqmm.,4Core 2.5 sqmm.7 core 2.5 sqmm,12 core 2.5 sqmm. & 19 Core 2.5 sqmm.)	1	Lot		0.00	INR Zero Only
16	Cable Support & Cable Trays					
16.1	Ladder type Cable Trays for outdoor					
16.2	450 mm wide	980	Mtrs		0.00	INR Zero Only
16.3	300 mm wide	825	Mtrs		0.00	INR Zero Only
16.4	Perforated Cable Trays inside the Control Building					
16.5	450 mm wide	200	Mtrs		0.00	INR Zero Only
16.6	300 mm wide	60	Mtrs		0.00	INR Zero Only
16.7	HDD/PVC pipe for laying cable from Trench to equipment	1	Lot		0.00	INR Zero Only
16.8	63 mm Dia					
16.9	100 mm Dia					
17	AC Distribution Board					

17.1	AC 415V, 500A, 3-Ph cubicle type Indoor, floor mounted, auxiliary service board as per specification comprising of : (LVAC Board will have 2 sections , each section will be fed from independent Aux. transformer (250 KVA , 33/0.433 k V).Busbar rating 600 A, 25 k A for 1 sec, Copper , IP 54 , 2 mm COLD ROLLED / 3 MM HOT ROLLED as aper specification)	1	Set		0.00	INR Zero Only
18	DC Distribution Board (220 V DC & 48 VDC)					
18.1	DC Distribution Board will have 2 sections , each section will be fed from independent Battery charger. Busbar rating 200 A FOR 220 V DC, 16 k A / FOR 1 SEC , AL or Copper , IP 54 , 2 mm COLD ROLLED / 3 MM HOT ROLLED) as per specification	1	Set		0.00	INR Zero Only
18.2	DC Distribution Board will have 2 sections , each section will be fed from independent Battery charger. Busbar rating 200 A FOR 48 V DC, 16 k A / FOR 1 SEC , AL or Copper , IP 54 , 2 mm COLD ROLLED / 3 MM HOT ROLLED) as per specification	1	Set		0.00	INR Zero Only
19	Battery and Battery charger					
19.1	Battery set (220 V DC)					
19.2	220V DC, 300 AH lead acid battery of VRLA type complete with accessories as per specification with 10% spare acid in non- returnable container (In tier arrangement).	1	Set		0.00	INR Zero Only
19.3	Battery set (48 V DC)					
19.4	48V DC, 200 AH lead acid battery of VRLA type complete with accessories as per specification with 10% spare acid in non- returnable container (In tier arrangement).	1	Set		0.00	INR Zero Only
19.5	Battery charger (220 V DC)					
19.6	Automatic float and Float cum boost charger 60 A suitable for 220 V 300 AH VRLA battery & charger shall be as per specification	1	Set		0.00	INR Zero Only
19.7	Battery charger (48 V DC)					
19.8	Automatic float and Float cum boost charger 50 A suitable for 48 V 200 AH VRLA battery & charger shall be as per specification	1	Set		0.00	INR Zero Only
20	Fire fighting					
20.1	NIFPS _ Nitrogen Injection Fire Fighting System System for Transformer	2	Set		0.00	INR Zero Only
20.2	Fire Fighting equipment as per section-6 22.5 Kg capacity FE CO2 type, Trolley Mounted	4	Nos.		0.00	INR Zero Only
20.3	25 Kg Capacity FE DCP type, Trolley Mounted	4	Nos.		0.00	INR Zero Only
20.4	DCP 10 Kg Capacity, Wall mounted	6	Nos.		0.00	INR Zero Only
20.5	FE CO2 6.5 Kg capacity, Wall mounted	4	Nos.		0.00	INR Zero Only
20.6	DCP 5 Kg Capacity, Wall mounted	3	Nos.		0.00	INR Zero Only
20.7	Foam Type 9 liter Capacity, Wall mounted	4	Nos.		0.00	INR Zero Only
20.8	Water CO2 9 liter, Wall mounted	4	Nos.		0.00	INR Zero Only
20.9	Fire Buckets (12 Nos. with stand in one set)	2	set		0.00	INR Zero Only
21	Outdoor illumination					
21.1	LED flood light fitting with 250W led with all accessories control gear for Yard Lighting (to be mounted on Gantry Tower)	22	Nos.		0.00	INR Zero Only
21.2	LED flood light fitting with 250W led with all accessories control gear near boundary(to be mounted on 10 mtr. Pole)	16	Nos.		0.00	INR Zero Only
21.3	LED street light fitting with 150W led with all accessories control gear on street (to be mounted on 10 mtr. Pole)	36	Nos.		0.00	INR Zero Only
21.4	70W LED lights post latern light mounted on 2.5 mtr. P-type pole	10	Nos.		0.00	INR Zero Only
21.5	10 Mtr. MS Tubular poles 540SP-72	52	Nos.		0.00	INR Zero Only
21.6	2.5 Mtr. P-type pole made of 100mm Dia GI Pipe	10	Nos.		0.00	INR Zero Only
	Lighting fixture box for Light suitable for outdoor installation comprising of 4 Nos. GRT M 4				0.00	INR Zero Only

21.8	AC 415V,50 kA for 1 Sec cubicle type Outdoor, Plinth mounted, Outdoor yard lighting panel as per specification comprising of Incomer 100A TPN MCCB - (1 No.), light. (1 Nos), 70A 4P CONTACTOR 1 NOS,24 Hr timer for auto Operation,Auto manual selector switch , 1 set push button for on/off operation.,Outgoing feeder 63A TPNMCCB (4 nos)	3	Nos.		0.00	INR Zero Only
22	Air conditioning					
22.1	Split unit for Control room (capacity 2 TR)	7	Nos.		0.00	INR Zero Only
23	Measuring Instruments					
23.1	Digital earth resistance meter	1	Nos		0.00	INR Zero Only
23.2	5 kV automated Insulation resistance meter	1	Nos		0.00	INR Zero Only
23.4	Earthing stick	1	Nos		0.00	INR Zero Only
24	Furniture					
24.1	Executive Table :(1800mmX900mm)(Wooden)	2	Nos		0.00	INR Zero Only
24.2	Executive Chair:(Revolving mid back type)	3	Nos		0.00	INR Zero Only
24.3	Visitor's Chair with hand rest	6	Nos		0.00	INR Zero Only
24.4	Computer Room Executive Chair (Revolving mid back type)	1	Nos		0.00	INR Zero Only
24.5	2 nos. of Steel Almirah LengthXWidthXHeight in mm(1016X560X1980)	2	No		0.00	INR Zero Only
24.6	1 Nos. of Recta work station of size 1200mmX600mm,25 mm thick work top with 3 drawer pedestal along with keyboard tray and CPU trolley and partitions of thickness 53 mm and of height 1200 mm.	1	No		0.00	INR Zero Only
25	Miscellaneous items (First Aid box -2 nos ,Accident prevention chart - 2nos, Aluminum alloy ladder - 2 nos , Safety belt 6nos , Earthing stick -3 nos , Helmet - 10 nos))	1	Lot		0.00	INR Zero Only
Total in Figures					0.00	INR Zero Only
Quoted Rate in Words		INR Zero Only				