

Date: 27/10/2021

Mr. Engr. Belal Hosan
Engineer-Project Sales
Cross World Power Ltd.
Plot # 1/B, Road # 90, Gualshan 2
Dhaka-1212

**Subject: Work order for supply, installation, testing & commissioning of 1250KVA
11/.415KV Sub-Station**


Thank you for your offer letter no. CWPL/SS/F&AL/26102021 Dt. 26/10/2021 followed by discussion meeting with you held on 26/10/2021 at our office.

We are pleased to give you work order for supply, installation, testing & commissioning of 1250KVA 11/.415KV Sub-Station at our project building M/S Fabric & Apparels Ltd. Araihaazar, Narayanganj. As per terms & conditions We issue a cheque no. CD -AC 5605725 Dt. 27/10/2021 advance 40% (BDT. 16,80,000) on BDT. 42,00,000.

We hope that you will start the work with in next 07 days and complete the same within the 1st Week of December 2021 as per schedule time.

Thanking You,

Sincerely Yours,


Chandan Ghosh
Managing Director

Ref : CWPL/SS/F&AL/26102021

Dated: 26-10-2021

To
The Managing Director
Fabric & Apparels Ltd
Araihazar, Narayangonj, Dhaka.

FINANCIAL OFFER

Sub : Offer for supply, installation, testing & commissioning of 1250KVA 11/.415KV Sub-Station.

SL #	Descriptions	Qty.	Unit	Unit price in Taka	Total price in Taka
PART-A : EQUIPMENTS					
1	11kV Drop Out Fuse	1	Set	5,670	5,670
2	11kV Lightning Arrester	1	Set	5,670	5,670
3	11kV HT Switchgear (630A VCB)	1	Set	595,000	595,000
4	1250 kVA 11/0.415kV Oil Immersed Transformer	1	Set	1,450,000	1,450,000
5	2000A LT Switchgear	1	Set	1,260,000	1,260,000
6	750kVAR Auto/Manual PFI Plant	1	Set	590,000	590,000
7	11kV Heat Shrinkable Kit	4	Set	2,500	10,000
8	Earthing For Substation	5	Set	24,000	120,000
9	ELB (Electrical Licensing Board) Formalities	1	Job	60,000	60,000
10	ELB (Govt. Fee)	1	Job	33,660	33,660
11	Delivery, Loading & Unloading	1	Job	35,000	35,000
12	Installation, Testing & Commissioning (Without Any Cable And Civil Works)	1	Job	35,000	35,000

Total Amount in BDT (Excluding VAT & TAX)= **4,200,000**

Terms & Conditions :

- 1 Validity : Our offer will remain valid for a period of 40 days from the date of this offer.
- 2 Delivery : Within 60 days after receipt of confirmed order & payment as per clause # 3.
- 3 Payment : 40% as advance along with order & remaining 40% before delivery after inspection & remaining 20% after commissioning.
- 4 Warranty : One years after commissioning or one & half years from the date of delivery which comes earlier.

Thanking you.

Yours very truly,
Cross-world Power Ltd



Engr. Belal Hosan
Engineer-Project Sales
Cell: 01708-483895

Md. Shamsul Alam
Head of Sales (Substation)
Cell: 0175-5514740

TECHNICAL SPECIFICATION

SL.	Discription	QTY.	UNIT
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01) 11KV DROP-OUT FUSE**1 Set**

11KV Drop -out fuse of following specifications :-

Rated voltage (nominal)	: 11KV
Rated max. voltage	: 15KV
Rated current (conti.) RMS	: 100A
Interrupt current RMS	: 10KA
Rated frequency	: 50Hz
BIL	: 75KV
Withstand test voltage :	
Dry 1 Min.	: 33KV
Wet, 10 sec	: 30KV

02) LIGHTING ARRESTER**1 Set**

11KV Lighting arrestor of following specification :-

Rated voltage (Nominal)	: 9KV
Rated system voltage	: 12KV
Frequency	: 50Hz
Minimum spark over (Rms)	: 14KV
Maximum spark over (Rms)	: 40KV
Max. impulse spark (crest)	: 45KV
Withstand voltage	
(Power frequency 1 Min. dry)	: 28KV
Withstand voltage	
(Power frequency 10 sec. wet)	: 24KV
Nominal discharge current	: 5KA
Impulse current withstand	: 55KA

03) 11KV HT SWITCHGEAR (630A VCB)**1 Set**

14 & 16SWG Sheet steel fabricated 11KV indoor metal enclosed switchgear.
This medium voltage switchgear panel shall be used for secondary distribution sub-station upto 12KV & suitable for an ambient temperature of 45 deg.C and rated rupture capacity of 350MVA complete with all accessories, diagrams, levels, wirings & terminals.

Technical Data :

Service voltage : 12KV
Rated voltage : 11KV

Insulation level :

Impulse withstand voltage 1.2/50 micro-sec. : 75KV (Peak)
Power frequency withstand voltage/1 min. : 28KV rms.

The equipment proposed under this offer has been designed, manufactured & tested in accordance with the following applicable IEC standards.

- common clause for high voltage switchgear stand : IEC 694
- high voltage switchgear in metallic enclosure : IEC 298
- high voltage ac circuit breakers : IEC 56
- ac switches and earthing switches : IEC 129
- high voltage switches : IEC 265
- high voltage combined switch/fuse for ac current : IEC 420
- current transformers : IEC 185
- voltage transformers : IEC 186
- high voltage fuses : IEC 282
- control monitoring : IEC 801

The switchgear panels shall comprise of :

Enclosure	1	No's
630A, 12kV, 20kA VCB (Fixed Type)	1	No's
6A, TP, MCB	2	No's
20A, DP, MCB	2	No's
6A, DP, MCB	1	No's
Breaker connection insulator	6	No's
Breaker Connection Bush	0	No's
Busbar 50x10	12	Meter
HT Busbar Sleeve 50x10	15	Meter
11 kV CT 80/5/5A		
Core 1 : 5 VA, Class 0.5M5 for Metering	3	No's
Core 2 : 5 VA, Class 10P10 for Protection		
11 kV PT 11000/ $\sqrt{3}$: 110/ $\sqrt{3}$		
100 VA, Class 0.5	2	No's
Protection Relay, ABB REJ 601	1	No's
Ameter	1	No's
Ameter Selector Switch	1	No's
Volt meter	1	No's
Volt meter Selector Switch	1	No's
110 VAC/DC Control Relay with Base	1	No's
Indicator Lamp Red, 110 VAC	2	Pcs
Indicator Lamp Yellow, 110 VAC	3	Pcs
Indicator Lamp Blue, 110 VAC	1	Pcs
Indicator Lamp Green, 110 VAC	1	No's
Green Push Button	1	No's
Red Push Button	1	No's

BRAND : ABB, INDIA/ITALY.

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(8802) 8811858, 8816528, 9891442; Fax: (8802) 8816205; E-mail: info@cross-world.com

04) 1250 KVA OIL IMMERSED TRANSFORMER WITH OLTC**1 Set**

3 Phase oil immersed, naturally air cooled transformer according to IEC 76 standard with 3 HT bushings and 4LT Bushings, arching horn, conservator, oil level indicator, plugs for oil filling, sampling and draining, lifting lugs & with first filling of oil in Transformer as per Standard fittings : 4 flat bi-directional rollers.

Technical Data :

Rated Capacity	: 1250 KVA
Rated Frequency	: 50 Hz.
Rated Voltage,	
-Primary	: 11000 V
-Secondary	: 415 V/240V at no load
BIL	
-Primary	: 75 KV
-Secondary	: 2.5 KV
Vector Group	: DYn11
Tapchanger (Off-Load)	: 5 Position (0, +2.5%, -5%, -7.5%)
Tap changing	: On HV side off-load manually from outside.
Interphase connection	: Delta
Dielectric strength	: 28 KV (for 1 min)
LV winding	
-Rated Voltage	: 415/240V
Interphase connection	: Star
Neutral	: Fully insulated & brought out
Dielectric strength	: 3 KV (for 1 min)
Ambient Temp.	: 40° C
Temperature rise	
-in oil	: 60° C
-in coil	: 65° C
No Load Loss	: 2050 W
Full Load Loss	: 16000 W
Impedance	: 6.00%
Installation	: Indoor/Outdoor
Cooling	: ONAN
Conductor	: Copper

Transformer Protection : Buchholz Relay and Dial Thermometer- 1 Set**ORIGIN**

Silicon Steel	: USA/Japan/Korea
Super Enamelled Wire	: BRB/Gazi (Bangladesh)/RR(India)/Equivalent
Insulating Materials	: Italy
Copper Wire/Strip	: Singapore/Malaysia/India(Processed in
Transformer Oil	: Electrol/Sabita/Apar (India)

BRAND : CROSS WORLD POWER

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05) 2000A LT SWITCHGEAR PANEL	1	Set
Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type LT Switchgear Panel with 2000A Hard Drawn Copper Busbar.		
Set of components required for the manufacture of LT Panel comprising :-		
INCOMING FROM REB :		
2000A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:		
1 X Auxilliary Contact	Pcs	1
1 X Shunt Opening & Closing Coil		
1 X Gear motor for spring charge		
1 X Under Voltage Release		
Origin: Schneider Electric.		
2000/5A Current Transformer 10/5VA, Class-1	Pcs	4
Digital (A+V+Hz), Multispan.	Pcs	1
CB ON OFF TRIP Indication lamp	Pcs	3
ON & OFF push button	Pcs	2
1x6A,TP MCB for the protection of control circuit	Pcs	1
1x2A,SP MCB for the protection of control circuit	Pcs	1
Electrical Interlock	Set	1
INCOMING FROM DG :		
2000A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:		
1 X Auxilliary Contact	Pcs	1
1 X Shunt Opening & Closing Coil		
1 X Gear motor for spring charge		
1 X Under Voltage Release		
Origin: Schneider Electric.		
2000/5A Current Transformer 10/5VA, Class-1	Pcs	3
Digital (A+V+Hz), Multispan.	Pcs	1
CB ON OFF TRIP Indication lamp	Pcs	3
ON & OFF push button	Pcs	2
1x6A,TP MCB for the protection of control circuit	Pcs	1
1x2A,SP MCB for the protection of control circuit	Pcs	1
OUTGOING FOR PFI :		
1250A, TP, 50KA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.	Pcs	6
Origin: Schneider Electric.		
OUTGOING FOR MDB :		
2000A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:		
1 X Auxilliary Contact	Pcs	1
1 X Shunt Opening & Closing Coil		
1 X Gear motor for spring charge		
1 X Under Voltage Release		
Origin: Schneider Electric.		
OUTGOING FOR FIRE DB :		
400A, TP, 50KA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.	Pcs	1
Origin: Schneider Electric.		
OUTGOING FOR DB UTILITY & SPARE :		
250A, TP, 50KA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.	Pcs	2
Origin: Schneider Electric.		
OUTGOING FOR COMPRESSOR :		

100A, TP, 50KA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. Pcs 1

Origin: Schneider Electric.

OUTGOING FOR COS :

80A, TP, 50KA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. Pcs 1

Origin: Schneider Electric.

OUTGOING FOR LOAD :

63A, TP, 50KA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. Pcs 1

Origin: Schneider Electric.

OUTGOING FOR SS ROOM :

25A, TP, 50KA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. Pcs 1

Origin: Schneider Electric.

OUTGOING FOR SDB MEDICAL :

16A, TP, 6KA, 415V, 50Hz, MCB. Pcs 1

Origin: Schneider Electric.

BUSBAR Details

2000A TPN+E1/2 Common Busbar

3x2000A TP Terminal Busbar

1x1250A TP Terminal Busbar

1x400A TP Terminal Busbar

2x250A TP Terminal Busbar

ENCLOSURE As Standard.

Connection Accessories . Box 3

Job 3

06) 750kVAR AUTO/MANUAL PFI PLANT	1	Set
Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type PFI Panel with 2000A hard drawn copper busbar.		
Set of components required for the manufacture of PFI Panel comprising :-		
5 X 100 (25X4) kVAR, 415V, 50 Hz, 3 Phase, normal duty type, self healing compact PF capacitors bank with discharge resistor.	Nos.	20
Brand : Epcos, India		
3 X 50 (25X2) kVAR, 415V, 50 Hz, 3 Phase, normal duty type, self healing compact PF capacitors bank with discharge resistor.	Nos.	6
Brand : Epcos, India		
3 X 25 kVAR, 415V, 50 Hz, 3 Phase, normal duty type, self healing compact PF capacitors bank with discharge resistor.	Nos.	3
Brand : Epcos, India		
1 X 12.5 kVAR, 415V, 50 Hz, 3 Phase, normal duty type, self healing compact PF capacitors bank with discharge resistor.	Nos.	1
Brand : Epcos, India		
1 X 12.5 kVAR, 415V, 50 Hz, 3 Phase, normal duty type, self healing compact PF capacitors bank with discharge resistor. (Fixed).	Nos.	1
Brand : Epcos, India		
96A ,triple phase magnetic contactor for 50Kvar capacitor.	Nos	13
Origin: Donga/Hyundai, Korea.		

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50A ,triple phase magnetic contactor for 25Kvar capacitor.	Nos	3
Origin: Donga/Hyundai, Korea.		
22A ,triple phase magnetic contactor for 12.5Kvar capacitor.	Nos	1
Origin: Donga/Hyundai, Korea.		
100A TP MCCB	Nos	13
63A TP MCCB	Nos	3
32A TP MCB	Nos	1
Auto manual selector switch with adder block.	Nos	1
2A SP MCB	Nos	12
10A TP MCB	Nos	1
1x12 Steps reactive power regulator which performs the switching of capacitor bank in automatic power factor correction equipments depending on charges of reactive power complete with p.f.lumini- escent indicators & digital power factor meter.	Nos	1
Origin: Mikro, Malaysia		
1x1250A TP Common Busbar		
Enclosure As Standard.	Set	2
General Accessories.	Job	2

07) Substation Earthing**5 Set****Earthing Boring :**

Earthing of electrical installation with 38.5 mm (1.5") dia G.I. pipe throughly (2 swg earth electrode) having 6.35 mm dia holes across dia at 305 mm interval securedly bonded with washer, nuts, bolts etc. sunk upto a depth of (10+10) ft with GIP pipe to attain earth resistance <1 ohm including blind socket for water pouring facility.

Earthing Copper Lead :

Installation of solid cooper wire earthing lead 2 SWG in 38.1 mm dia GI pipe & termination of connection at both end - 100ft

Copper Lead Laying :

Copper lead through 20 mm (3/4") dia pvc flexible pipe including fitting, fixing the PVC pipe in wall, floor, earth or column complete as require -10meter