

## Work Order

February 06, 2019

**CROSS WORLD POWER LTD.**

Plot No.-1/B, Road No. 90, Gulshan-2  
Dhaka-1212

Tel: 58816528, 9891442, Fax: 58816205

Web: [www.cross-world.com](http://www.cross-world.com)

**Attn: Mr. Md. Harunor Rashid, COO (Cell no. 01755514702)**

**Sub: Work Order for supply, installation, testing and commissioning of 750 KVA 11/0.415KV Sub-station (Oil Immersed), 2 nos. 250 KVA & 350 KVA Diesel Generator (Prime Power foreign canopy with plant mounted synchronizing panel) and Busbar Turnking System for 14 storied commercial building with 3 nos. basement at Romask Tower, 22/3, Kawran Bazar, Dhaka.**


Dear Sir,

Please refer to your offer dated January 22, 2019 and followed by negotiation on February 03, 2019 for supply, installation, testing, commissioning & after sales services of **750 KVA 11/0.415 KV Sub-station, 2 nos. 250 KVA & 350 KVA Diesel Generator (Prime Power foreign canopy with plant mounted synchronizing panel) and Busbar Turnking System for 14 storied commercial building with 3 nos. basement at Romask Tower, 22/3, Kawran Bazar, Tejgaon, Dhaka.** We are pleased to inform you that Owner has accepted your offer and hereby placed the Work Order for the above as per specifications, and terms & conditions mentioned below:

**A. Abstract (Financial):**

Sl	Particulars	Amount	Remarks
A.	Sub-station	BDT 2,750,000.00	(Excluding VAT)
B.	Busbar Turnking System	BDT 1,900,000.00	(Excluding VAT)
C.	Generator	GBP 63,000.00	FOREIGN PART: 350 & 250 KVA Gen set with plant mounted synchronizing panel, Canopy & ATS total value
D.	Custom Duty, C&F charge, Govt. fee, Transportation & MC charge	BDT 6,50,000.00	(Excluding VAT)
<b>Total amount (A+B+C+D)</b>		FOREIGN PART = GBP 63,000.00 LOCAL PART = BDT 53,00,000.00	

\*L/C will be opened by the owner at their own arrangement.





**B. Scope of Works:**

SL	Description	Vendor's Responsibility
01.	<ul style="list-style-type: none"> <li>Supply, Installation, Testing and Commissioning of Genset</li> <li>After sale service of the Machine.</li> </ul>	<p>To be installed and commissioned in 750 KVA 11/0.415 KV Sub-station, 2 nos. 250 KVA &amp; 350 KVA Diesel Generator (Prime Power foreign canopy with plant mounted synchronizing panel) and Busbar Turning System for 14 storied commercial building with 3 nos. basement at Romask Tower, 22/3 Kawran Bazar, Dhaka.</p> <p><b>Contact person:</b> Mr. Md. Razu Miah Project Director Cell: 01700702485</p>

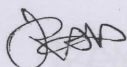
**C. Technical Specifications:**

Short Description of Items	Specification
<b>11kV Drop-Out Fuse</b>	
Rated voltage (nominal)	11KV
Rated max. voltage	15KV
Rated current (conti.) RMS	40A
Interrupt current RMS	10KA
Rated frequency	50Hz
BIL	75KV
Withstand test voltage :	
Dry 1 Min.	33KV
Wet, 10 sec	30KV
<b>Lighting Arrestor</b>	
Rated voltage (Nominal)	9KV
Rated system voltage	12KV
Frequency	50 Hz
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
<b>SUPPLY OF 11KV SWITCHGEAR:</b>	
630Amps, 11KV, 50Hz Triple Pole VCB-20KA	With draw able type, with motor operated Brand: ABB
C.T for 11KV	Core 1 : 5VA, class 0.5M5 for metering Core 2 : 5VA, class 5P10 for protection
P.T for 11KV	Ratio : 11000/110V

*[Signature]*



	Burden : 50VA, Class : 0.5
IDMT relay	Brand: ABB
KWHr	Brand: SECURE
<b>750 KVA TRANSFORMER :</b>	
Rated Capacity	<b>750 KVA</b>
Rated Frequency	50 Hz.
Rated Voltage, -Primary -Secondary	11000 V 415 V/240V at no load
BIL -Primary -Secondary	75 KV 2.5 KV
Vector Group	DYn11
Off-load tap changer	+1x2.5%, 0, -3x2.5%
No Load Loss	1725 W
Full Load Loss	12100 W
Impedance	5.5%
Installation	Indoor/Outdoor
Cooling	ONAN
Conductor	Copper
Brand: Shakti Engineering Ltd	
Core:	Silicon steel sheet
Coil	HV/LV wires BRB Bangladesh.
Oil:	Sabita, India
LV insulated copper bar	BRB. Bangladesh.
Other insulated materials and fittings, Italy.	
<b>LT SWITCHGEAR PANEL</b>	
<b>INCOMING</b>	
1250A, TP, 50KA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.	1 Nos
Brand: Schneider	
1250/5A Current Transformer 10/5VA, Class-1	3 Nos
Ammeter & Voltmeter	2 Nos
CB ON OFF TRIP Indication lamp	3 Nos
ON & OFF push button	2 Nos
1x6A, TP MCB for the protection of control circuit	2 Nos
1x2A, SP MCB for the protection of control circuit	6 Nos
<b>OUTGOING :</b>	





1000A,TP,50KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. Brand: Schneider	1 Nos
250A,TP,25KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. Brand: Schneider	1 Nos
200A,TP,25KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. Brand: Schneider	1 Nos
100A,TP,25KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. Brand: Schneider	1 Nos
63A,TP,25KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. Brand: Schneider	2 Nos
ENCLOSURE As Standard & Connection Accessories (Busbar, So on)	Enclosure Brand : CPL
<b>SUPPLY OF 480 KVAR AUTOMATIC PFI PLANT:</b>	
Magnetic Contactor	Brand : Schneider
Capacitor Bank	Brand : Epcos,
MCCB	Brand: Schneider
<b>SUPPLY OF BUSBAR TRUNKING SYSTEM:</b>	
Busbar material (AL with Silver plated & Insulated )	
Brand	EAE
Origin	Turkey
Busbar Materials	material (AL with Silver plated & Epoxy Insulated )
Circuit Breaker	ABB, Italy
Shipment	Any Sea Port of Turkey
<b>SUPPLY OF 2NOS. 250KVA &amp; 350 KVA DIESEL GENERATOR SET :</b>	
Brand	Tempest
Prime Capacity of Diesel Gen. set	250 KVA & 350 KVA
Generating set Model	PS250 PS350
Manufacturer's name	Allam Marine Ltd.
Country of Origin	UK
Base fuel tank: for 8-10 hours operation	Base Built
Engine Model	For 250 KVA: 1506A-E88TAG3 For 350 KVA: 2206A-E13TAG2
Manufacturer of Engine & Origin	Perkins USA

*(Signature)*



Offered Alternator Model	For 250 KVA: UCD274K For 350 KVA: HCI444E
Manufacturer of Alternator & Origin	STAMFORD
<b>SUPPLY OF 1000A TP+N AUTOMATIC CHANGE OVER SWITCH :</b>	Foreign (UK)

• **Details of Generator specification:**

Sl.	Description	Details	Specification
01.	Generator:		
		Fuel Tank Capacity	For 250 KVA: 500 Litter For 350 KVA : 750 Litter
		Fuel Consumption per hour	For 250 KVA: 42 Litter For 350 KVA : 54 Litter
		Net Weight	For 250 KVA: 3000Kg For 350 KVA :4000Kg
		Overall Dimension (mm)	For 250 KVA: 261X111X181 (LXWXH) For 350 KVA : 318X113X215 (LXWXH)
		Speed, RPM	For 250 KVA: 1500 Rpm For 350 KVA : 1500 Rpm
		Efficiency	For 250 KVA: 96 % For 350 KVA: 96 %
		Ambient Temp	Up to 50°C
02.	Engine:		
		Brand	PERKINS
		Model	For 250 KVA: 1506A-E88TAG3 For 350 KVA: 2206A-E13TAG2
		Country of Origin	UK/USA
		Cooling/ Starting Method	Water Cooled
03.	Alternator:		
		Brand	STAMFORD
		Model	For 250 KVA: UCD274K For 350 KVA: HCI444E
		Origin	UK
		Rated voltage	400/415V(L-L)
		Frequency	50 Hz
04.	ATS	Foreign	ABB or Equivalent Europe Origin
05.	Canopy	Foreign	UK
06.	Sound Level	85 dBA @1 meter distance	85 dBA @1 meter distance
07.	Warranty		730 Days or 3000 Hors
08.	Service Centre	Nearest to the site	Tejgaon

**Control System:** Control System is incorporated with manual/ automatic set to manually & automatically start & stop the generator indicating the operation status and fault conditions.

*(Signature)*



D. **Installation Materials and Diesel:** Power Cable: Installation materials excluding power cable, earth cable, cable laying, (for electricity connectivity among Generator to ATS, MDB to ATS and ATS to SDB) PVC Pipe, Diesel: full tank gasoline will provide by vendor. .

E. **EARTHING:** Earthing the electrical installation with 38.10mm (1.5") dia G.I. Pipe (earth electroede) having 6.35mm dia holes across the dia at 305mm interval securely bonded with 2 SWG HDBC earth lead with washer, nuts, bolts etc. sunk up to under mentioned depth and protection of earth lead by 12.7mm (½") dia G.I. pipe up to plinth level run at a depth of 609.6mm (2ft.) below G.L. up to main board to be earthed including necessary connecting copper sockets, bolts, nuts, including additional vertical run of 12.7mm dia G.I. pipe up to G.L. from 609.6mm (2') depth with blind socket for water pouring facility etc. complete for maintaining earth resistance within 1 ohm and as per direction of the Engineer-in-charge.

1. Earthing the electrical installation with 38.10mm (1.5") dia G.I. Pipe (earth electroede) having 6.35mm dia holes across the dia at 305mm interval securedly bonded with 2 SWG HDBC earth lead with waher, nuts, bolts etc. sunk up to under mentioned depth and protection of earth lead by 12.7mm (½") dia G.I. pipe up to plinth level run at a depth of 609.6mm (2ft.) below G.L. up to main board to be earthed including necessary connecting copper sockets, bolts, nuts, including additional vertical run of 12.7mm dia G.I. pipe up to G.L. from 609.6mm (2') depth with blind socket for water pouring facility etc. complete for maintaining earth resistance within 1 ohm and as per direction of the Engineer-in-charge. (Depth of bottom of main electrode at 31242 mm. (102.5 ft) from GL & length of electrode 30480 mm. (100 ft).

2. Construction of Earthing inspection pit inside measurement 600 mm x 600 mm with 250 mm thick brick in cement mortar (1:4) with 100mm thick RCC top slab (1:2:4) with 1% re-enforcement 450 mm dia water sealed CI man-hole cover with locking arrangement including necessary earth works, site filling and one brick flat soling 75 mm thick (1:3:6) base concrete for making inlet channel & 12mm thick (1:2) cement plaster with neat finishing etc. all complete up to a depth of .75 meter.

F. **Terms & Conditions:**

01.	Delivery, installation, testing & commissioning	:	<b>Date &amp; Time:</b> All the deliverables shall be made at the site within <b>90 (ninety)</b> days after receiving the work order.
02.	Delivery Responsibility	:	Cross World Power Ltd. shall take the entire responsibility for supply, installation and commissioning. No other third party will be engaged in this job.
03.	Warranty	:	The offered Engine and Alternator is warranted for a period of 02 years from the date of dispatch or 3000 hours for the date of operation from the date of commissioning whichever is later against any manufacturing defect /defective materials only. # For BBT & Substation 02 year Warranty From date of Hand over.

*[Handwritten signature]*



		If any additional time required Bank authority should be informed beforehand.
05.	Responsibility	: From commencement to completion of work Cross World shall be solely and wholly responsible for any damage to property, loss of life or any other damage or accident and the owners shall bear absolutely no responsibility, in case such incidents occur.
06.	Safety measure	: <ul style="list-style-type: none"> <li>• Prior to commencement of any work, Cross World shall assess and shall take the safety measure as per requirement of the site.</li> <li>• Cross World shall strictly follow the rules enacted by the Government of Bangladesh regarding health, safety and environment and treatment of the personnel and staff of the contractor's due to any reason including accidents shall be completely contractor's responsibility.</li> <li>• Cross World shall supply all tools including safety device like helmets, shoes, belt etc.</li> </ul>
07.	Personnel information	: Cross World Power Ltd. shall have to submit list of Manpower/Technician/Engineers to be engaged at project site with their identity card to the Branch authority before start of work.
08.	Finish:	: The generator set and control panel would be finished in bright color paint.
09.	Handbooks:	: The equipment would be supplied with one set of hand books.
10.	Vibration & Smoke Level:	: Post Installation Vibration should be zero and additional rubber pad have to be provided. Smoke level has to be environmental friendly.
11.	Mode of Payment	: <p><b>Local Part Payment Mode-</b> Local Payment shall be made in the form of Payment Order in your favour as per following schedule:</p> <ul style="list-style-type: none"> <li>• 20% of work order value : Advance</li> <li>• 40% of work order value : After delivery of equipments at site</li> <li>• 30% of work order value : After successful installation, testing &amp; commissioning</li> </ul> <p>Balance 10% of work order value will be kept as security money which will be released after 12 (twelve) months from the date of handover</p> <p><b>N.B.</b> Cashcheque payment Tk. 29,75,000. &amp; Account payee cheque payment Tk. 23,25,000.</p>
12.	Submission of Bill	: Bill should be submitted along with the related documents and the work completion certificate (up to supply, installation, testing and commissioning) for payment.
13.	VAT & TAX	: 2nd Party will add VAT (5%) to the amount of Tk. 23,25,000. The Cumulative value will be at Tk. 24,41,000. After that 1st party will deduct AIT as per Govt. rules from the above said amount.(i.e. Tk. 23,25,000.)
14.	Liquidity Damage	: In the event of any delay in completion of the system or any misshapenness during the work at the site that is caused solely by Contractor, excluding delays caused





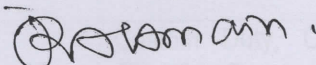
		circumstances outside contractor's reasonable control, Purchaser may assess against Contractor liquidated damage (LD). Such LD shall include the losses suffered by other Contractor working at site.
15.	<b>Submission of Documents</b>	: All shipping documents attested by L/C opening bank shall be submitted immediately after delivery of the Genset at site.
16.	<b>Special Conditions</b>	: <ul style="list-style-type: none"> <li>a. Owner reserves the right to impose penalty or not to take the goods for any type of discrepancy in the product.</li> <li>b. The vendor agrees to indemnify, defend and hold responsibilities from and against loss of owner's assets and valuables. Any claim, action, proceeding, damage, liability, fine, penalty, cost and expenses (including, without limitation, the reasonable fees and expenses of repairing) arising out of its act, omission or negligence under this agreement.</li> <li>c. The quality of product is to be maintained as desired standard.</li> <li>d. For any type of sub-standard quality found from your end, the owner reserves the right for outright rejection of the goods, which, you will take back at your own cost and will replace with acceptable quality within fifteen days of the rejection time.</li> <li>e. This price includes carrying cost, manual labor charge and any kind of charge thereof.</li> <li>f. Owner can ask or request to submit all the relevant documents related with production and import for further clarification and settlement of the bill.</li> <li>g. Cross World shall have to provide necessary training as and when required to the people involved with the works.</li> </ul>

Owner has the right to cancel the Merchandise any time for the non-compliance of any terms and conditions mentioned above.

You are, therefore, requested to ensure the supply of the above item as per specifications/standard and terms & conditions mentioned above within stipulated time.

Please sign a "**Photocopy Copy or Scanned Copy**" of this work order, if you agree to the terms & conditions, and return the same for our records or send us an email against the work order, as an acknowledgement of receipt of the work order.

Yours Sincerely,



**Rumee A Hossain**  
Managing Director  
Romask Limited

Signed and accepted

\_\_\_\_\_  
**Signature of Contractor**