



Chittagong Club Limited

S.S. Khaled Road, Chittagong, Bangladesh
Tel : +88-031-620832 (Auto Hunting)
Fax : +88-031-610861
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NO.CCL/WO/GC/GHC/2017

June 18, 2017

To,
Engr. Mohammad Nurul Alam
Manager, Sales & Marketing.
Cross World Power Ltd.
H: NE (O) 06, R:92, Gulsahn-2, Dhaka-1212.
Mobile: 01755514716.

Sub: **WORK ORDER FOR SUPPLY, INSTALLATION COMMISSIONING AND TESTING OF 150 KVA PRIME/ 164 KVA STAND BY DIESEL GENERATOR FOR GUEST HOUSE COMPLEX.**

Ref: **YOUR OFFER DATED JUNE 14, 2017 - / CWPL- AM/1637/17-R01F.**

Dear Sir,

The Management of Chittagong club Ltd is pleased to issue a work order in favor of our company for the Supply and Install of 150 KVA Prime/ 164 KVA Stand by diesel generator for **Guest House Complex** at Chittagong Club Ltd buildings as follows:

Technical Details:

1. Generator Details:

Tempest (Manufactured by Allam Marine Limited, UK) Diesel Generating Set Model: PM150 (New) (150 KVA Prime & 164 KVA Standby) at 1500 rpm, 50 Hz, 3 phase, 4 wire, 400/230 volts at 0.8 PF. All other details are as follows:

BRAND : TEMPEST	MODEL : PM150 (NEW)
COUNTRY OF ORIGIN : UK	PORT OF SHIPMENT : ANY PORT, UK.
CAPACITY (Prime) : 150 KVA	CAPACITY (Stand by) : 164 KVA.
START SYSTEM: Automatic Microcontroller based as well manual Start /Stop System.	
EMERGENCY STOP: Emergency Stop available as protection device.	
VIBRATION SKID: Build-in vibration skid for smooth operation.	
BATTERY CHARGER: Auto Battery Charger (ABC) included.	
DIMENSION (Open Set) (cm): 232x76x167 (LxWxH)	FUEL TANK CAPACITY: 340 Ltr.
FUEL CONSUMPTION : 24.70 Ltr./Hr. at 75% Load.	

2. Engine Details:

BRAND/ORIGIN: Perkins, UK.	MODEL: 1106A – 70TAG2
SPEED: 1500 RPM	INDUCTION SYSTEM: Turbocharged.
ENGINE TYPE: 4 Stroke multi cylinder industrial diesel Engine suitable for tropical environment.	
COOLING SYSTEM: Water Cooled (Radiator cooled with engine driven fan)	
PROTECTION: Over speed, Under speed, Oil pressure, Over Heating etc.	
FUEL TANK: Built in with base.	

3. Alternator Details:

Industrial brushless AC Alternator model all other details are as follows:

BRAND / ORIGIN: Mecc Alte, UK	Model / Frequency: ECP34-2L/4, 50 Hz
PHASE: 3 Phase	Output (Volts): 400/415 volts (Line to Line)
COOLING: Air Cooling	Insulation Type: Class "H"
PROTECTION: Industrial brushless design screen protected, fan ventilated, drip-proof, self exciting in accordance with IP21/IP23.	
VOLTAGE REGULATOR: Automatic Voltage Regulator (AVR)	
VOLTAGE REGULATION: +1 % to -1% / +1.5% to -1.5% power factor between 0.8 lagging & unity (Depends on Connected Load)	



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4. Control Module:

Deep Sea Electronics (DSE), UK control system is incorporated with automatic set to manually & automatically start & stop the generator indicating the operation status and fault conditions via a graphical LCD display and a flashing LED on the front panel. All Other Details are as follows:

- **CONTROL MODULE TYPE:** Auto Start (AMF) digital control module.
- **OPERATION:** Operation of the module is via push buttons mounted on the front panel with Stop, Auto and Manual positions etc.
- **DIGITAL INSTRUMENTS:** Ammeter, Voltmeter, Frequency meter, Run hour meter, Oil Pressure, Water Temperature etc.
- **ALARM INDICATOR:** Under/Over Volts, Under/Over Speed, Under/Over Frequency, Low Oil Pressure, High Engine Temperature, Fail to Start and Loss of Speed sensing etc.
- **LOAD TRANSFER TIME:** Adjustable, Delay on on start 1 to 25 sec, Delay on transfer 1 to 70 sec.
- **ENGINE COOLING TIME:** 5 minutes maximum.
- **PHASE FAILUE RELAY:** Digital option & Control for main's upper lower cut off voltage setting and adjustable hysteresis voltage, sensing option etc.

5. AUTOMATIC TRANSFER SWITCH (ATS):

Local built ATS will be supplied in suitable steel enclosure wall mounted, fuses, magnetic contractor coil, indicators etc.

- **Interlocking:** Electrical as well as mechanical.
- **Magnetic Contractor / Motorized Switch:** 3 Pole.
- **Brand of Breaker:** ABB or Schneider, Origin Europe.
- **Paint:** Powder Coated.

6. ACOUSTIC CANOPY:

Local built Acoustic Enclosure will reduce the sound level to 75 dBA @ 3 meter in open space and is complete with:

- Air inlet and outlet options at the alternator and radiator ends respectively.
- Hinged access doors on either side with proper locking option.
- Silencer
- Cable entry gland apertures.

7. STANDARD ITEMS: The following items be supplied with the Gen-Set as Standard.

- i. Lead Acid Battery 12/24 Volts as required.
- ii. Silencer.
- iii. Rubber anti vibration mountings.
- iv. Flexible Bellows.
- v. Battery Charger.
- vi. Main Line 3 Pole Circuit Breaker.
- vii. Alternator mounted Deep see UK original main controlling panel.
- viii. Fuel tank for 10 hours operation.
- ix. Operational manual & keys etc.



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Financial Details:

SL.	Materials Description	Unit	Qty	Price (BDT).
1	Tempest Brand 150 KVA (Prime) Rating Diesel Generator with Perkins Engine and Mecc-Alte Alternator. Brand: Tempest. Engine: Perkins, UK. Alternator: Mecc Alte, UK. Control Module : Deepsea, UK. Port of Shipment: Felixstowe Port, UK. Availability: 5 to 15 days from ready Stock subject to availability.	Set	1	17,00,000.00
2	Local Canopy For 150 KVA Generator	Pcs	1	2,10,000.00
3	Local Auto Transfer Switch (ATS) for 150 Generator.	Pcs	1	1,10,000.00
			Total Price	20,20,000.00
			Special Discount	2,20,000.00
			Grand Total	18,00,000.00

In Word: **Eighteen Lac Taka Only. (Excluding Vat & Tax).**

Payment Terms & Condition:

1. Payment:

- 50% Payment as advance with work order.
- Final and Rest 50% will be after successful Commission and Testing.

2. Warranty/Guarantee:


As per standard of manufacturer, Cross world will provide 3000 hours or 2 Years warranty whichever comes first, effective from the date of delivery at the client's premises. Warranty policy is for any manufacturing defects or any premature wear & tear due to usage. The faulty parts are replaced within the warranty period.

3. Installation & Commissioning:

- The price includes Carrying, Loading, Unloading, Installation & Commissioning charge.
- Cross World Group service engineers will service above mentioned works.
- Cross World will provide their service engineer 24x7 to attend emergency service to ensure uninterrupted power of the Gen-Set.
- After Sales Service on Call service is also available to attend any types of emergencies.

As a token of your acceptance of the work order, kindly sign one copy and return to us for our record and your compliance.

Thanking you,


.....
Lt. Col. Md. Ferdous Khan (Retd.)
Chittagong Club Limited.

cc: **Joint Secretary (Admin)**, Chittagong Club Limited
cc: **CFO (Accounts)**, Chittagong Club Limited
cc: **File Copy**.