

**WORK ORDER**

Memo No P008/Generator/2016/54

Date: 17.07.2016

To,  
**Arunangshu Paul**  
Manager, Sales & Marketing  
Cross World Power Ltd.  
H: NE(O) 06, R: 92, Gulshan-2, Dhaka-1212

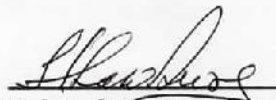
**Subject:** Work order for supply, installation, testing and commissioning of 250kVA Prime/275 kVA Stand by 3 phase heavy duty Diesel Generator Set with Built-in Soundproof Canopy for our project "SERENE" at plot No-9, Road No-04, Baridhara, Dhaka.

Dear Sir,

With reference to your quotation REF : CWPL-AM/1831/16 dated: 13.07.2016 and subsequent negotiation we are pleased to issue you the work order for supply, installation, testing and commissioning of 250kVA Prime/275 kVA Stand by 3 phase heavy duty Diesel Generator Set with Built-in Soundproof Canopy for our above mentioned project under the specification and terms & conditions attached herewith.

If you agree with the terms & conditions of the work order please sign below.

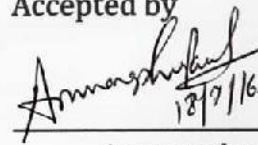
Thanking you



**Zahirul Haque Chowdhury**  
Managing Director  
Client



Accepted by



**Arunangshu Paul**  
Manager, Sales & Marketing  
Supplier

## A. TECHNICAL SPECIFICATIONS :

BRAND : Tempest	MODEL : PM250 (NEW)
COUNTRY OF ORIGIN : UK	PORT OF SHIPMENT: Any port, UK
CAPACITY (Prime) : 250 KVA	CAPACITY (stand by): 275 KVA
START SYSTEM : Automatic Microcontroller based as well manual Start / Stop System	
EMERGENCY STOP : Emergency Stop available as protection device	
VIBRATION SKID : Built-in vibration skid for smooth operation	
BATTERY CHARGER : Auto Battery Charger (ABC) included	
DIMENSION (mm) : 4140X1160X2220 (LxWxH)	FUEL TANK CAPACITY : 609 Liter
FUEL CONSUMPTION : 42.00 Ltr./Hr. at 75% Load	

### Engine Details:

BRAND/ORIGIN : Perkins, USA	MODEL : 1506A-E88TAG3
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, Over Load, Under Load etc	
FUEL TANK : Built in with base	

### Alternator Details :

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

BRAND/ORIGIN : Mecc Alte, UK	Model / Frequency : ECO38-1LN , 50 Hz
PHASE : 3 Phase	Output (Volts) : 400/415 volts (Line to line)
COOLING : Air cooling	Insula on 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 :  $\pm 1\%$  /  $\pm 1.5\%$  power factor between 0.8 lagging & unity





### Control Module:

Deep Sea Electronics (DSE), UK control system is incorporated with automatic set to manually & automatically start & stop the generator indicating the operation on 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 start 1 to 25 sec, Delay on transfer 1 to 70 sec
ENGINE COOLING TIME	: 5 minutes maximum
PHASE FAILURE RELAY	: Digital option & control for Main's upper lower cut off voltage setting and adjustable hysteresis voltage, sensing option etc

### Acoustic Canopy:

Foreign built Acoustic Enclosure will reduce the sound level to 85 dBA @ 1 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.

### Standard Items:

The following items will be supplied with the gen-set as standard:

- ☑ Lead Acid Battery 12/ 24 Volts as required
- ☑ Silencer
- ☑ Rubber anti vibration mountings
- ☑ Flexible Bellows
- ☑ Battery charger
- ☑ Main Line 3 pole Circuit Breaker
- ☑ Alternator mounted deep sea UK original main controlling panel
- ☑ Fuel tank for 10 hours operation
- ☑ Operational manual & keys etc.
- ☑ Spare parts Catalogue



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## **PRICE SUMMARY:**

SL #	Product Name	Unit	Price (GBP)	Qty.	Total Price(GBP)
1)	TEMPEST Brand 250 KVA (Prime) Rating Disel Generator with Perkins engine and Mecc-Alte alternator  BRAND : Tempest ENGINE : Perkins, USA ALTERNATOR : Mecc Alte, UK CONTROL MODULE : Deepsea, UK PORT OF SHIPMENT : Thames port, UK	Set	17,750.00	1.00	17,750.00
2)	Foreign built in Canopy for 250 KVA Genset	Pcs.	4,100.00	1.00	4,100.00

**GRAND TOTAL in GBP 21,850.00**

## **B. TERMS & CONDITIONS:**

1. **PAYMENT TERMS:** 100% irrevocable letter of credit will be open by the client as per PI submitted by Cross World Power Ltd. in favor of Allam Marine Limited, Wyke Way, Melton, Hull, HU14 3BQ, England.

2. Before opening L.C the supplier shall provide installation Layout drawing of Generator set based on practical site survey for approval of the client.

3. **DELIVERY AT SITE:** From Chittagong port to final destination at plot No-9,Road No-04,Baridhara, Dhaka.Supplier will be fully responsible for safely arrival of total generator set up to site.

4. **WARRANTY** – As per standard of manufacturer 1500 hours or 1 year warranty whichever occurs later, effective from the completion of commissioning & handing over.Warranty policy is for any manufacturing defects or any premature wear & tear due to usage. The faulty part(s) is/are replaced/repared within the warranty period.

### **5. TIME SCHEDULE :**

a) Shipment and arrival at Chittagong port - within 10 to 12 weeks from the date of L/C opening.Any amendment required for supplier's reason cost there of will be deducted from the L.C value/Bill.

b) Chittagong port to project site -1 week from the date of arrival at Chittagong port.

c) Installation within 3 days of arrival of goods at site.

6. The price includes ~~ducting, silencer pipe extension work~~, Installation & Commissioning charges etc. complete. However, this offer does not include the cost of commissioning materials, such as, Power/Control Cable, Civil works, Ducting, Silencer pipe Extension Work, Lube Oil, Coolant, Diesel & any other materials that may be necessary for installation of the generator set. **Cross World Group Service will execute all the above mentioned works.**All cost of commissioning materials will be borne by the client but the labor cost for installation work will be borne by the supplier.

7. The price includes carrying of Generator set from Chittagong port to project site, loading-





unloading, carrying and transportation etc. total cost up to site.

8. Custom clearance will be done by the supplier. The custom duty, Taxes, VAT and all other Govt. charges will be borne by the client at actual after arrival of goods at project site.

9. The consignment shall be inspected before shipment. (PSI)

10. Supplied Generator set must be complied with approved standard quality & specifications. If any inferior quality found in the supplied materials total lot has to be returned and replaced by the supplier at their own cost as per instruction of the client.

10. The site has been visited by the supplier before submission of the offer and confirmed the client about the placement of the generator in the proposed generator room with all arrangements. In case of any problem regarding placement of the generator the supplier will be totally responsible. Labour cost for carrying the generator at the selected place shall be borne by the supplier.

11. After completion of 12 months warranty period, extended support will be provided by the supplier for servicing of the generator sets at a reasonable charge by entering into a service agreement with the client.

12. Necessary arrangements for Auto start should be installed.

13. All incidental expenses are to be borne by the supplier.

14. All safety measures shall be taken by the supplier during work and be responsible for any occurrence happened due to negligence.

15. The supplier shall install the silencer pipe, ducting work, complete the wiring and commission the Generator set with load before formal handover to the client.


16. During handing over the Generator set supplier shall give one set operation and maintenance Manual to the client.

17. Necessary arrangements for sound proof and exhaust must be included.

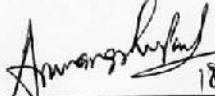
18. Training will be provided by the supplier to the client's operator of the Generator after completion of commissioning.

19. The client reserves the right to cancel the work order due to any reasons related to the quality, specification and delivery schedule of the job or any other logical reasons.

20. Failure to maintain the time schedule Tk.5000.00 (Five thousand) will be charged per day.

  
18.07/16  
Zahirul Haque Chowdhury  
Managing Director  
Client



  
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Manager, Sales & Marketing  
Supplier

