

Purchase Contract for 1(one) unit 500 KVA Tempest DG, Model: PS 500

Ref. PI No. CW 17 -049, Dated : 20.06.2017

This is a Purchase contact between:

1. Buyer : M/S ASTECH LIMITED

B-19/20, BSCIC I/E
Sagorika Road
Chittagong-4219.
Bangladesh, here in after called the "Buyer"

2. Seller : CROSS WORLD POWER LIMITED

House 6, Road 92,
Gulshan - 2, Dhaka 1212, Bangladesh,
Phone: +880 2 5881 1858, 989 1442
Bangladesh, here in after called the "Seller"

3. Mode of Purchase: Purchase shall be through a Letter of credit (LC) to be established by the "Buyer" against an Indent PI to be issued by **Ms. Allam marine Ltd.** who has officially approved this seller (**CROSS WORLD POWER LIMITED**) as their legal agent in Bangladesh.

4. Item Description:


For purchase of 1(one) unit 500KVA **Tempest DG**, Model: PS 500

- Diesel Gen. set (UK assembled) open type, skid mounted, Prime Power 500 KVA/400 KW, Standby Power 575 KVA/440 KW.
- Engine: Perkins 2506C-E15TAG2(Made in USA)
- Alternator: Stamford, Model: HCI544C (Made in UK)
- Lead Acid Battery :12V X 200AH; Qty:2Pcs
- Battery Charger& all related accessories, tools, spares.

Corporate Office : B-19/20, BSCIC Industrial Estate, Sagorika Road, Chittagong-4219, Bangladesh.

Tel: +880-31-2773880 e-mail : info@astechbd.com www.astechbd.com

Dhaka Office : Rupsha Tower-9C, House # 7, Road # 17, Kamal Ataturk Avenue,
Banani, Dhaka-1213, Bangladesh. Tel: +880-02-982 1715


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- f. Electrical : 415V/230V, 3-phase 50 Hz, 1500 RPM, Neutral Grounding,
- g. ECU : Built-in with IP22, PF 0.8 Perkins Engine (same warranty as applicable for the Perkins engine).
- h. Starting Motor : 24V DC.
- i. AVR : Regulation +/- 0.5%
- j. Cooling System : Water cooled Radiator & Fan. Operating temperature: 40°C.
- k. Governing : Turbo charged, Inner cooled.
- l. Silencer : Industrial Silencer with Muffler & Flex pipe.
- m. Fuel Tank : 800Litre.

5. Fuel Consumption Data: Guaranteed Fuel Consumption (Lit/Hour)

50% Load = 54 L/Hr
75% Load = 75.2 L/Hr
100% Load = 98.5 L/Hr
110% Load = 108.6 L/Hr

6. Data Display : Lube Oil pressure
Water Temperature
Battery Voltage
Engine speed (RPM)
Current in each phase
Voltage phase to phase, phase to neutral
Running Hours.

7. Protections with Display :
Low oil pressure
High water Temperature
Battery Charge fail
Over speed/under speed
Starting Failure
Over Current
Under voltage
Over/Under Frequency (Hz)
Fuel Level low
Emergency stop.


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8. Load Testing : Continues 8 hours load testing shall have to be conducted at Buyers premise at different load in presence of Buyer's representative .Seller shall have to establish the declared Fuel consumption of the DG.

9. Control function check: All Critical Control function checking by "Simulation system".

10. Test certificate : Official Certificate of Load Test, Fuel consumption and Control function to be issued by **Allam marine Ltd.** before shipment.

11. Flashing Light Error Alarm on Engine : Flash Light error indicator and Error Code chart to be provided by **Allam marine Ltd.**

12. Sound Alarm : Audio Alarm for error condition to be provided.

13. Engine Warranty : 24 months from the date of Commissioning by Seller. This warranty to cover service, repair, replacement etc., as the case may be free of charge within reasonable time.

14. Price: The price of the DG is as mentioned in Sellers PI/Indent (GBP: 32,500).

15. Payment : By Letter of Credit, 100% at sight on document presentation.

16. LC Terms & Conditions:

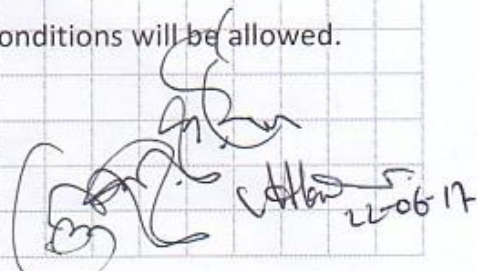
a. LC will be opened by Buyer(Astech Ltd).

b. LC charges, cost, expenses, Customs duty etc. shall be borne by Buyer (Astech Ltd).

c. Maximum one amendment charge shall be borne by Buyer. If more than one amendment is required the Sellers beneficiary **Allam marine Ltd.** shall bear the amendment and incident charge.

d. All bank charges with in Bangladesh on Buyer account& All overseas bank charges on Beneficiary's account.LC currency shall be US dollar.

Once LC opened, no change of any commercial terms & conditions will be allowed.

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17. Perkins Engine Serial Number :

a. Perkins Engine serial number has to be provided by Perkins factory and **CROSS WORLD POWER LIMITED** will confirm the Engine number before shipment and submit a document as evidence thereby.

b. Individual certificate of origin (COO) is required for major components such as Engine, Alternator, ECU etc. All these components should have name plate mentioning "Made in USA".

18. Delay Delivery: Penalty shall be applied at the rate of Tk.10,000 for each day of delay from the stimulated shipment date in the PI/Indent.

Last time the shipment was delayed.

This time any delay will not be accepted by Buyer & penalty has to be bear by Seller.

19. Shipment/Delivery:

a. Load test to be conducted prior shipment and certificate should send Buyer immediately.

b. Shipment of the DG shall be from UK & this has to mentioned in LC and BL. Evidence to this effect be submitted by Seller **Cross world Ltd.**

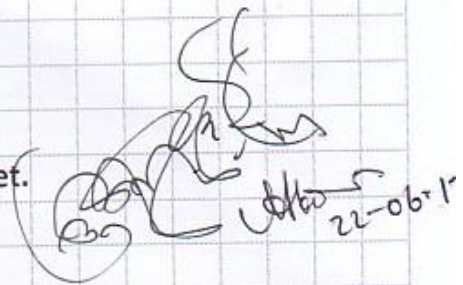
20. Installation & Commissioning : The DG shall be installed by Seller within(3 three) working days of arrival of the DG unit at Astech premises. Total work will be coordinated and supervised by Astech Technical team & Astech Technical Head Mr. Mamunur Rashid.

21. Manuals : Following Manuals to be supplied by **Allam marine Ltd.** before shipment of the DG:

- a) Engine Manual in English (includes operating Manual & Maintenance Manual).
- b) Alternator Manual in English.
- c) ECU Manual in English(operation Manual)
- d) Control Panel manual in English(operation Manual).

In last consignment, we missed the manuals.

Please take care of the manuals during packing the DG set.


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22. Packing : Export standard sea worthy strong wooden box.

23. WARRANTY: 24 months from the date of Commission or 2000 running hours from the date of commissioning, whichever comes first. Warranty to cover all 100% equipment and spares parts without consumable item such as filter and lube oil.

24. Pre shipment Inspection: Buyer reserves the right to appoint & engage Pre-shipment Agency to inspect & guarantee/show a report of compliance prior to shipment.

25. After Sales Service & Spare Parts:

a. Seller **Cross world Ltd.** will provide after-sales service on 24x7 round the clock covering all emergency spares or components during warranty period.

b. During warranty period consumables such as Turbo Charger, AC pump, Injector, ECU, Sensors, Injector pump supplied with DG will be borne by seller (**Cross world Ltd.**).

26. Extended warranty: a. Should the buyer so desires, Seller shall provide maintenance service even after completion of warranty period for further 2(two) years.

b. Top Overhaul will be provided by **Cross world Ltd.** after 2000 running hours.

27. Free Spare Parts : 2 sets diesel oil filter, 2 sets lube oil filter (one set is installed on the gen. set, the other set will be packed together with the other accessories).

28. Tool Box: Essential tools specific to this DG set shall be supplied with the DG set.

Signature:

For Buyer (Astech Ltd.)

Jafar Ahmed

Deputy Managing Director.

Signature

For Seller (Cross world Ltd.)

Engr. Nurul Alam

Manager, Sales and Marketing

Accessory list:
Accessory list for one Gen-set

Item	Name and spec	Quantity	Remark
1	Diesel Gen-Set	1 Set	
2	Control panel	1 Pcs/Gen-set	Installed on the gen-set
3	Muffler	1 set/Gen-set	Accessories
4	Elbow	1 set/Gen-set	Accessories
5	Flange	1 set/Gen-set	Accessories
6	Flange gasket	1 set/Gen-set	Accessories
7	Battery and coupling line	1 set/Gen-set	Accessories
8	Quake-proof rubber	1 set/Gen-set	Accessories
9	Documents with Gen-set	1 set/Gen-set	Document
10	Tools	1 set/Gen-set	Accessories
11	MCCB	1 Pcs/Gen-set	Installed on the gen-set
12	Base fuel tank	1 Pcs/Gen-set	Installed under the gen-set
13	Battery charger	1 Pcs/Gen-set	Accessories
14	Water temperature sensor	1 Pcs/Gen-set	Installed on the gen-set
15	Oil pressure sensor	1 Pcs/Gen-set	Installed on the gen-set

Basic Technical Data

ITEM	PROPOSAL
Prime Power	400KW/500KVA
Standby Power	450KW/575KVA
Engine	Perkins/2506C-E15TAG2
Alternator	Stamford, Model: HCI544C (Made in UK)
Stoke and Bore	137*171
Cylinder Number	6
Displacement	15.12
Fuel Consumption (75% load)	81L/H
Gross Weight (Kg)	3800
Dimension (L*W*H mm)	3800*1131*2215

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Handwritten signature and date: 22-06-17

Perkins Engine Fuel Consumption Chart:

2506C-E15TAG2

Designation	Fuel consumption calculated on net rated powers			
	g/kWh		Litres /hr	
	1500 rev/min	1800 rev/min	1500 rev/min	1800 rev/min
Standby	207	201	114	114
Prime + 10%	207	201	114	114
Prime	211	199	106	100
At 75% of Prime	215	204	81	77
At 50% of Prime	220	217	55	55



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