



SAYED ELECTRIC & CO.

Engineers ■ Builders ■ Importers ■ Suppliers
& Special Class Government Contractors

সৈয়দ ইলেকট্রিক এন্ড কোং

প্রকৌশলী, নির্মাতা, আমদানীকারক, সরবরাহকারী
ও বিশেষ শ্রেণীর সরকারী ঠিকাদার

Ref: SM/WO/BB/MYM/03/2021.

Date: 28/02/2021.

To
CEO
CROSS WORLD POWER LTD.
Plot 1/B, Road 90, Gulshan - 2, Dhaka 1212, Bangladesh.
Attention: Ariful Islam (Manager, Sales).

Subject: Work order for Supply of following Equipment's as per your Offer for
Bangladesh Bank, Mymensingh office, Mymensingh.

Project: Bangladesh Bank, Mymensingh.

Ref. No : CWPL/SS/BB/20072020. (A). Dated: 20/07/2020.

Ref. No : CWPL/SS/BB/20072020. (B). Dated: 20/07/2020.

Ref. No : CWPL/BBT-221/120. Dated: 20/07/2020.

Ref. No : Generator. (Refer by Mailed). Dated: 20/07/2020.

Dear Concern.

With due respect, we like to place the work order for LT Switchgear Panel-1 Set, ELT Panel (ATS Panel) -1 Set, 750 KVAR PFI Plant -1 Set, 500 KVA & 200 KVA Diesel Generator with foreign Canopy Set -1 Set, Generator Synchronizing Panel -1 Set, Floor MDB-1-1 Set, Floor MDB-2-1 Set, Floor MDB-3-1 Set, Floor MDB-AC-1 Set, Server MDB-1-1 Set, Busbar Trunking System (with Installation) BBT-1 (2000A) 1 Lot, BBT-2 (1250A) 1 Lot, BBT-3 (1250A) 1 Lot), Server SDB -1 Set, AC SDB-1 -1 Set,, AC SDB-2 -4 Set, SDB Gate House 1 Set, SDB-M -1 Set as your financial Offer.

Total Work Order Value:

CWPL/SS/BB/20072020. (A).	BDT: 2,926,000/=
CWPL/SS/BB/20072020. (B).	BDT: 29,259,900/=
CWPL/BBT-221/120.	BDT: 4,710,000/=
Generator (Ref. Mailed)	BDT: 7,700,000/=
Total Value	BDT: 44,595,900/=

(Taka: Four Crore Forty-Five Lac Ninety-Five Thousand and Nine Hundred Only)



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Ref:

Date :

Terms & Conditions:

01. Drawing must be provided within 15 days from the Advance Payment date.
02. Goods must be delivered Within 180 days after receipt of confirmed order.
03. Payment Method:
 - i) Advance 20% payment As Token By 10/03/2021.
 - ii) Rest 20% payment After Receiving Drawing.
 - iii) Rest 50% payment After receiving the equipment's at site.
 - iv) Final 10% payment after Installation.
04. Warranty will be provided One year after Commissioning or One & Half year from the date of Delivery.

Thanking You.

Syed Mosharrof Hossain,

Proprietor.

SAYED ELECTRIC & CO.

Contact: +8801714066725.



Allam Marine Ltd

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Specifications Submission and Compliance Sheet (Form PG3-5)

Invitation for Tender No: 20/mymensingh/SST/2020-32

Tender Package No: N/A

Tender Lot No: N/A

Date: 11/06/2020

Package Description: Single

Lot Description: Single

Instruction to fill-up:

*To be filled up by the Tenderer & Manufacturer in letterhead pad with appropriate data as per manufacturer specification, otherwise the tender shall be rejected.

* Must mention specific value/data model, brand & origin as per manufacturer offered model specification; **should not write complied or as per required/specification**, as it is not GTP rather specification submission sheet. (Page 91-140)

*All incoming & outgoing ACB of LT Panel shall be installed in single enclosure/cubicle.

16 SUPPLY OF 1NO. 500KVA & 1NO. 200KVA DIESEL GENERATOR SET:

Description	Bangladesh Banks Requirement	Tenderers offered Specification
<p>Supply of 1(one) no. 500KVA & 1(one) no. 200KVA (continuous rating in accordance with ISO 3046/1, ISO 8528/1, BS5514, AS2789 & DIN 6271) 415V, 3-Phase diesel generator sets & Auto Paralleling, Auto Synchronizing & Auto Load Sharing, automatic load shedding, for 2nos. DG sets, Radiators, 4nos. to 6nos. Anti-Vibrating Spring to be fitted with base frame & civil foundation of the Diesel Generator sets with 1no. 800A 50KA 4P-ACB/MCCB & 1no. 400A 50KA 4P MCCB/ACB, auxiliary relays, hospital type silencer, exhaust pipe up to a level which will be accepted by the Environmental department, exploration department, in built daily fuel tank, 1-day storage fuel tank (as per specification exploration dept.) for each DG. The combined dbA level of each DG set with foreign enclosure/canopy maximum 75 dbA at three meter from the enclosure as per drawing, specification & direction of the Engr-in-charge. Necessary Exhaust ducting work made of 16SWG sheet steel & extended Silencer pipes shall be provided if required so that environment codes ISO:14000 & ISO: 14001 shall be complied in all respect.</p> <p>The generating set shall be assembled & tested in USA / UK/ EU. Canopy shall also be manufactured and tested as per relevant standards in USA / UK/ EU & accepted / approved by the Engineer.</p> <p>The contractor shall perform free Maintenance works for 1 year & also supply of necessary spares and consumables such as Oil filter, Air filter, Fuel filter, coolant without Engine oil and Fuel within 12(Twelve) months warranty obligations from the date of Successful commissioning of the brand new 500KVA(prime power) & 200KVA Diesel Power Generator.</p>	<p>Brand, Model & Origin mentioned by Bidder (manufactured, assembled & Tested from USA/UK/EU)</p> <p>* Catalog need to be submitted</p>	<p>Genset Brand : Tempest, Manufactured , assembled & Tested in UK</p> <p>Model : PL 500 & PL 200</p> <p>Catalogue Submitted</p>



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500 KVA Generator Set:		
Engine: (From USA/UK/EU/Japan)	Brand, Model & Origin mentioned by Bidder * Catalog need to be submitted	Brand : Perkins Model : 2506A – E15TAG2 ; Origin : USA Catalog Submitted
Rating(Prime)	500 KVA	500 KVA
Overload of 10% is permitted for 1 hour in every 12 hours	Yes	Yes
Engine RPM at rated Power	1500 RPM	1500 RPM
Gross Engine BHP to deliver required alternator output of 400 KW	Mentioned By Bidder	583 (Net)
Type of cooling	Mentioned By Bidder	Water cooled
Aspiration Of Engine	Turbo charged	Turbocharged, Air to air charge cooled
Number of cylinder	6	6
Cycle	4 stroke	4 stroke
Combustion System	Direct injection	Direct injection
Fuel Consumption/Hr	Mentioned By Bidder	
Standby	Mentioned By Bidder	111 Ltr/Hr
Prime	Mentioned By Bidder	100 Ltr/Hr
70% Load	Mentioned By Bidder	70.9 Ltr/hr
50% Load	Mentioned By Bidder	53 Ltr/hr
Starting System	Electrical. 24V DC motor with starting battery arrangements	Electrical. 2x 12V 125 Ah DC motor with starting battery arrangements
Radiators:		
Type	Mounted belt-driven fan	Mounted belt-driven fan
Cooling system efficiency	High	High
Cooling system	Water-cooled	Water-cooled
Gear-driven circulating pump	Yes	Yes
Sensors & protection:		
speed sensor	Yes	Yes
Temperature and pressure sensors for gauges	Yes	Yes
3 level engine protection system	Yes	Yes
Governing System:		
Type of Governor	Electronic	Electronic
Class	A2 & G3	ISO 8528-5 class G3 steady state; A2
Isochronous operation	Yes	Yes
Mechanical Efficiency of the Engine (%)	Mentioned By Bidder	44% (Overall thermal efficiency)
Thermal Efficiency of the Engine (%)	Mentioned By Bidder	44%
Noise at rated load @ 3 Meter dB (A)	75dB(A) After canopy/ Encloser	75dB(A) After canopy/ Encloser



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Alternator: (From USA/UK/EU/Japan)	Brand, Model & Origin mentioned by Bidder * Catalog need to be submitted	Brand : Leroy Somer Model : TAL 047D ; Origin : Czech Republic Catalog Submitted
Type	Self-Regulating/Excited. Brushless PMG with digital AVR	Self Excited. Brushless PMG with digital AVR
Rated continuous kVA Rated kW at 0.8 PF (Lag)	500KVA 400KW	500 KVA 400 KW
Speed	1500RPM	1500RPM
Frequency	50Hz	50Hz
Rated Voltage	415V	415V
Rated Current		720 Amps
Power Factor	0.8	0.8
Connection diagram	Series Star	Series Star
Resistance in Ohms: Main Stator Main Rotor Exciter Stator Exciter Rotor	Mentioned By Bidder	<ul style="list-style-type: none"> - 0.005 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED - 1.77 Ohms at 22°C - 0.005 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED - 1.77 Ohms at 22°C
Number of Phases Neutral	3 phase Yes	3 phase Yes
Protection	IP23	IP23
Insulation	Class H	Class H
Over load capacity	1 Hour in every 12 hour period with 110 % over load	1 Hour in every 12 hour period with 110 % over load
Voltage regulation from No load to Full load at PF from 0.8 Lag to Unity with 4 % Speed governing of engine	< 0.5 %	< 0.5 %
Damper winding	Yes	Yes
Waveform Distortion	NO LOAD < 1.5% Full Load with BALANCED LINEAR LOAD < 5.0%	NO LOAD < 1.5% NON-DISTORTING BALANCED LINEAR LOAD < 5.0%
RF / Telephone interference	< 2.0 %	THF<2%
Efficiency at rated voltage & 0.8 PF 100 % Full load 75 % Full load 50 % Full load	<ul style="list-style-type: none"> ≥ 94.8 % > 94.5 > 94 	<ul style="list-style-type: none"> - 95.2% - 95.0% - 95.0%



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Short circuit withstands capacity. 3 – Phase short circuit. 2 – Phase Short circuit 1 – Phase short circuit	Mentioned By Bidder	Instantaneous- - 3-phase- x 1.00 - 2-phase L-L- x 0.87 - 1-phase L-N- x 1.30
Bearing Temperature sensor & Scanner	Yes	Not available this series of engine
Winding resistance(Cold Condition)	Mentioned By Bidder	- 0.005 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED - 1.77 Ohms at 22°C
Insulation resistance(Cold Condition)	Mentioned By Bidder	6 mega ohms @500 V
High Voltage at power frequency(Cold Condition)	Mentioned By Bidder	440 V
High Voltage at power frequency (Hot Condition)	Mentioned By Bidder	440 V
Insulation resistance(Hot Condition)	Mentioned By Bidder	8 mega ohms @500 V
Alternator Protection:	Over load / Over current / Short Circuit current Over and Under voltage Over and Under Frequency Earth Fault Reverse Power Loss of field/Excitation	Over load / Over current / Short Circuit current Over and Under voltage Over and Under Frequency Earth Fault Reverse Power Loss of field/Excitation
Engine Protection:	High coolant temperature (trip/alarm) Over speed (trip/alarm) Low oil pressure (trip) Battery Over/Under/Weak Volts Fail to start/crank Sensor failure Low coolant level (trip/alarm)	High coolant temperature (trip/alarm) Over speed (trip/alarm) Low oil pressure (trip) Battery Over/Under/Weak Volts Fail to start/crank Sensor failure Low coolant level (trip/alarm)
Test Report:	Load test Report of similar model/size need to be submitted with Tender	Attached
Detail spare part List:	Need to be submitted with tender	Attached
Operation & Maintenance Manual:	2 Set (delivery time)	Confirm
Routine Test/Witness Test:	As per General & Technical Specification Section-7, International Standard	Confirm as per General & Technical Specification Section-7, International Standard
Total Dimension with Canopy(LxWxH)	Mentioned By Bidder	Approximate Foreign Canopy (LXWXH)- 5450 X 1170 X 2250/2670 mm



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200 KVA Generator Set:		
Engine: (From USA/UK/EU/Japan)	Brand, Model & Origin mentioned by Bidder * Catalog need to be submitted	Brand : Perkins Model : 1106A-70TAG4; Origin : UK Catalog Submitted
Rating(Prime)	200KVA	200KVA
Overload of 10% is permitted for 1 hour in every 12 hours	Yes	Yes
Engine RPM at rated Power	1500RPM	1500RPM
Gross Engine BHP to deliver required alternator output of 160 KW	Mentioned By Bidder	273.6
Type of cooling	Mentioned By Bidder	Water cooled
Aspiration Of Engine	Turbo charged	Turbocharged & air charge cooled
Number of cylinder	6	6
Cycle	4 stroke	4 stroke
Combustion System	Direct injection	Direct injection
Fuel Consumption/Hr	Mentioned By Bidder	
Standby	Mentioned By Bidder	49.4 Ltr/Hr
Prime	Mentioned By Bidder	45.8 Ltr/Hr
70% Load	Mentioned By Bidder	32.4 Ltr/hr
50% Load	Mentioned By Bidder	23.1 Ltr/hr
Starting System	Electrical. 24V DC motor with starting battery arrangements	Electrical. 1x 12V 125 Ah DC motor with starting battery arrangements
Radiators:		
Type	Mounted belt-driven fan	Mounted belt-driven fan
Cooling system efficiency	High	High
Cooling system	Water-cooled	Water-cooled
Gear-driven circulating pump	Yes	Yes
Sensors & protection:		
speed sensor	Yes	Yes
Temperature and pressure sensors for gauges	Yes	Yes
3 level engine protection system	Yes	Yes
Governing System:		
Type of Governor	Electronic	Electronic
Class	A2 & G3	ISO 8528-5 class G3 steady state; A2
Isochronous operation	Yes	Yes
Mechanical Efficiency of the Engine (%)	Mentioned By Bidder	38.6% (Overall thermal efficiency)
Thermal Efficiency of the Engine (%)	Mentioned By Bidder	38.6%
Noise at rated load @ 3 Meter dB (A)	75dB(A) After canopy/ Enclosure	75dB(A) After canopy/ Enclosure



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Alternator: (From USA/UK/EU/Japan)	Brand, Model & Origin mentioned by Bidder * Catalog need to be submitted	Brand : Leroy Somer Model : TAL 044 M ; Origin : Czech Republic Catalog Submitted
Type	Self-Regulating/Excited. Brushless PMG with digital AVR	Self Excited. Brushless PMG with digital AVR
Rated continuous kVA	200KVA	200KVA
Rated kW at 0.8 PF (Lag)	160KW	160KW
Speed	1500RPM	1500RPM
Frequency	50Hz	50Hz
Rated Voltage	415V	415V
Rated Current		288 Amps
Power Factor	0.8	0.8
Connection diagram	Series Star	Series Star
Resistance in Ohms Main Stator Main Rotor Exciter Stator Exciter Rotor		<ul style="list-style-type: none"> - 0.0155 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED - 1.82 Ohms at 22°C - 17 Ohms at 22°C - 0.184 Ohms at 22°C (L-L)
Number of Phases Neutral	3 phase Yes	3 phase Yes
Protection	IP23	IP23
Insulation	Class H	Class H
Over load capacity	1 Hour in every 12 hour period with 110 % over load	1 Hour in every 12 hour period with 110 % over load
Voltage regulation from No load to Full load at PF from 0.8 Lag to Unity with 4 % Speed governing of engine	< 0.5 %	< 0.5 %
Damper winding	Yes	Yes
Waveform Distortion	NO LOAD < 1.5% Full Load with BALANCED LINEAR LOAD < 5.0%	NO LOAD < 1.5% NON-DISTORTING BALANCED LINEAR LOAD < 5.0%
RF / Telephone interference	< 2.0 %	THF<2%
Efficiency at rated voltage & 0.8 PF 100 % Full load 75 % Full load 50 % Full load	> 94.8 % > 94.5 > 94	<ul style="list-style-type: none"> - 95.6% - 95% - 93.9%
Short circuit withstands capacity. 3- Phase short circuit. 2- Phase Short circuit 1- Phase short circuit	Mentioned By Bidder	Instantaneous- <ul style="list-style-type: none"> - 3-phase- x 1.00 - 2-phase L-L- x 0.87 - 1-phase L-N- x 1.30



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Bearing Temperature sensor & Scanner	Yes	Not available this series of engine
	Mentioned By Bidder	- 0.0155 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED - 1.82 Ohms at 22°C
Winding resistance(Cold Condition)		
Insulation resistance(Cold Condition)	Mentioned By Bidder	6 mega ohms @500 V
High Voltage at power frequency(Cold Condition)	Mentioned By Bidder	440 V
High Voltage at power frequency(Hot Condition)	Mentioned By Bidder	440 V
Insulation resistance(Hot Condition)	Mentioned By Bidder	8 mega ohms @500 V
Alternator Protection:	Over load / Over current / Short Circuit current Over and Under voltage Over and Under Frequency Earth Fault Reverse Power Loss of field/Excitation	Over load / Over current / Short Circuit current Over and Under voltage Over and Under Frequency Earth Fault Reverse Power Loss of field/Excitation
Engine Protection:	High coolant temperature (trip/alarm) Over speed (trip/alarm) Low oil pressure (trip) Battery Over/Under/Weak Volts Fail to start/crank Sensor failure Low coolant level (trip/alarm)	High coolant temperature (trip/alarm) Over speed (trip/alarm) Low oil pressure (trip) Battery Over/Under/Weak Volts Fail to start/crank Sensor failure Low coolant level (trip/alarm)
Test Report:	Load test Report of similar model/size need to be submitted with Tender	Attached
Detail spare part List:	Need to be submitted with tender	Attached
Operation & Maintenance Manual:	2 Set (delivery time)	Confirm
Routine Test/Witness Test:	As per clause 7,8, Part B of Section-7 & International Standard	Confirm as per General & Technical Specification Section-7, International Standard
Total Dimension with Canopy(WxHxD)	Mentioned By Bidder	Approximate Foreign Canopy (LXWXH)- 3630 X 1020 X 1940mm



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