

6.2.2.22 GTP of 80KVA Online UPS 30Min Backup for Critical IT Load

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Online UPS 80kVA		Supply, installation, testing and commissioning of 80KVA/KW online UPS with 30min Backup. Brand: APC/Vertiv or equivalent, Brand Origin: To be mentioned by the bidder. The 80kVA/kW Uninterruptible Power Supply (UPS) is a high-efficiency, three-phase online double conversion system designed to provide reliable and continuous power protection for critical facilities such as Data centers, telecom, and industrial applications. Operating at 400/415V, 50Hz, the UPS delivers true online power with unity power factor (kVA = kW), ensuring maximum capacity utilization and reduced energy losses. It features advanced IGBT rectifier and inverter technology, achieving up to 96.2% efficiency in double conversion mode and over 99% in ECO mode, minimizing operational costs. The system provides full digital control via DSP for precise voltage and frequency regulation, and includes a wide input voltage tolerance for stable operation even under poor mains conditions. The 80kVA model supports parallel configuration for redundancy or capacity expansion, includes an internal static bypass and maintenance bypass, and offers comprehensive monitoring through LCD display, SNMP/web interface, and remote communication ports. Built with compact design, it ensures high reliability, ease of maintenance, and compliance with IEC 62040-1/2/3 standards, making it an ideal choice for critical power continuity applications. Battery configuration is 100AH x 40 Nos battery, 12VDC each block, Battery Brand: Leoch or equivalent reputed make, 1 battery string for 30min Backup.	

[The Tenderer should complete all the columns as required]

Signature:

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6.2.2.23 GTP of 20KVA Online UPS 30Min Backup for Non Critical Load

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Online UPS		Supply, installation, testing and commissioning of 20kVA Online UPS System	
2	Capacity		20KVA/KW	
3	Brand		Same Brand of 80kVA UPS, To be mentioned by bidder	
4	Model		To be mentioned by bidder	
5	Origin of the Brand		To be mentioned by the bidder	
6	Back up time		30 Min	
7	Technology		True Online Double Conversion	
8	Compatibility		The UPS should be suitable for IT equipment. Generator Compatibility.	
9	Alarm/Warning System		Multiple audible and visual alarms	
10	Input			
11	Input Voltage		380/400/415VAC 3-Phase, 4Wire	
12	Input Voltage Range		Three Phase 305Vac-498Vac (176-288VAC Single Phase)	
13	Nominal input frequency		50/60 (Hz)	
14	Input Frequency Range		40-70 (Hz)	
15	Input Power Factor		>0.99 at Full Load	
16	Output			
17	Rated Voltage		3phase, 380/400/415VAC	
18	Nominal output frequency		50/60 (Hz)	
19	Rated power factor (kW/kVA)		1 (Unity)	
20	Voltage Precision		1%	
21	Output Voltage THD		For Linear load <2%, for Non Linear Load 5%	
22	Crest Factor		3:1	
23	Step Load Performance		100%	
24	Over Load Performance		should be minimum 105% ~ 125%, 5min; 125% ~ 150%, 1min; 150%, 200ms	
25	Output waveform		Pure Sinewave	
26	System parameters			
27	Conversion Type		Online Double Conversion	
28	Parallel Operation		minimum 2+1 compatible	
29	Installation mode		19" Standard IT Rack Mountable & Tower Convertible	
30	System Efficiency @100% Load		Should deliver more than 96%	

Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
31	ECO mode efficiency		Up to 99%	
32	Noise		<60dB	
33	LCD Display		Gravity sense LCD Display Should be available	
34	Standards			
35	Safety		IEC/EN 62040-1	
36	Electromagnetic Compatibility		IEC/EN 62040-2	
35	UPS Classification		VFI-SS-111 according to IEC 62040-3	
36	Protection Level		IP20	
37	Communication		USB, SNMP for status monitoring, additional port for optional intelligent card should be available in the system.	
38	UPS Battery			
39	Battery Type		Sealed Lead Acid Maintenance free, VRLA	
40	Battery Brand		Leoch/Quanta/Powerkingdom/Equivalent	
41	Number of Battery		Within 32-40 Nos	
42	Battery Block Voltage		12VDC	
43	Battery Rating		40Ah each	
44	Battery Rack		Metal and external, open rack type	
45	UPS Battery Charger		Inbuilt minimum 13Amp Battery Charger	
46	Battery Disconnecter		Battery disconnecter should be available	
47	Environmental			
48	Operating temperature (°C)		Should be capable to operate the UPS in 0-50 (°C)	
49	Relative humidity (%RH)		Should be capable to operate the UPS in up to 95% RH	
50	Installation Reference		Proposed Brand Should have minimum 10 installation references in Bangladesh. Bidder should mention the names of the installation sites.	
51	Installation and Commissioning		Installation and commissioning by OEM Certified Engineer. Bidder should submit the Certified Engineer's CV with the bid documents.	

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6.2.2.24 GTP of 300kVA Phase Correction Device

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Phase Correction Device		Supply, installation, testing and commissioning of Automatic Phase Correction Device (PCD). Fully automatic phase reversal correction. Load Protection from High or Low voltage. Must check output the right sequence (RYB) in spite of any phase change. Whenever input supply is given, three phases must be checked and correct the same automatically. There must be Selectable switch for high and low voltage selection. Nominal voltage will be minimum 400V. Nominal operating current will be 500A or higher. 16 SWG Sheet steel enclosed, dust and vermin proof, free standing, floor mounting or wall mount best quality lock and powder coated paint finished. 415 V, 50 Hz, indoor type Low Tension distribution panel complete with hard drawn electrolytic copper bus bars with proper heat shrink tube as mentioned below TPN & E and equipped. 2 Set Phase indicating lamp RED/YELLOW/BLUE. 3 Set Control Circuit Breaker (6A, SP, MCB). 3 Phase Phasing Preventer/failure relay for phase correction. AC electronic Relay, Timer "Second", Fuse. All required incoming & Outgoing PCD Controlling system, timer and related all Accessories as per approved SLD. Brand: Local Assembled by imported sub components.	

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6.2.2.25 GTP of 250 kVA Automatic Voltage Regulator (AVR)

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Automatic Voltage Regulator		Supply, installation, Testing and Commissioning of 250kVA Automatic Voltage Regulator	
2	Brand		To be mentioned by the bidder	
3	Model		To be mentioned by the bidder	
4	Origin Of the Brand		To be mentioned by the bidder	
5	Country of Manufacture		To be mentioned by the bidder	
6	Rated power		Minimum 250 kVA - continuous duty INDOOR INSTALLATION	
7	Input voltage		3PH+N 380Y/220 VAC 3PH and 4 wires	
8	Input voltage range		400Y/230 VAC +/-20%, From 320-480VAC for three phase L- L	
9	Output voltage		3PH+N 380Y/220 or 400Y/230 VAC selectable	
10	Output voltage accuracy		± 1.0 % RMS stabilized	
11	Frequency		50/60 Hz +/- 5%	
12	Admitted load variation		0 to 100%	
13	Admitted load unbalance		up to 100%	
14	Input Current		Min 450A	
15	Rated Current		Min 360A @ 400 VAC	
16	Operation type		Electro Servo mechanical, motor drive controlled	
17	Operation control system		unit sensed by solid state electronics, conformal coated to prevent short circuiting due to humidity.	
18	Correction speed		18 ms/V =1.1 sec x60V, -15% drop, response time	
19	Power factor of the load		any	
20	Waveform distortion		< 0,2 % - nil and none added	
21	Full load efficiency		> 98% at 100% linear load	
22	Cooling		natural air (aided by fans over 45°C)	
23	Permissible overload		200% x2 minutes, 150% x5 mins, 110% x10 mins	
24	Operating temperature		: -25°C up to +40°C	
25	Storage Temperature		: -25°C up to +60°C	
26	Relative humidity		< 90% (non condensing)	
27	Ambient environment site		dusty with small pollution	
28	Acoustic noise		±58 dB (A)	
29	Applicable Safety Standards		IEEE 587, EN 50081-1:1992, EN 50082-1:1998, IEC 439	
30	Company certification		comply to ISO 9001:2000 Standards	
31	Fittings		Multi-task digital analyzers monitoring of INPUT / OUTPUT electrical values	
32			Measurement front panel with the following parameters	
33			voltage, current, frequency, power factor, Power,	

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Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
			KVA	
34			Lightning protection arrestors of spikes/surges TVSS class II	
35			Soft start and Soft Stop protections given by super-capacitor	
36			system for safe load supply at start-up	
35			Logic control based on a microprocessor control system	
36			Buzzer alarm provisions over-temperature, under/over voltage	
37			Alarms for minimum and maximum voltage	
38			Alarms for maximum current	
39			Alarms for ventilation failure and over-temperature	
40			Auxiliary circuit are protected by fuses	
41	Terminal board		Input & Output bus bars terminals with prevision of suitable connection holes. Cables fed the AVR from the bottom side	
42	Protection degree		metallic cabinet IP21 RAL 7035 finish paint preferred	

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6.2.2.26 GTP of 275 KVA Generator incl ATS

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand		Should be Mitsubishi/Caterpillar/Airman or Komatsu or equivalent	
2	Model		To be mentioned by the bidder	
3	Origin of brand		To be mentioned by the bidder	
4	Country of Assemble		To be mentioned by the bidder	
5	Features		The system should be prime (Continuously Operational capability) type	
6	Bore x Stroke (mm)		Should be around 112 X 149	
7	Displacement (Liter)		Should be 8.8 or or equivalent	
8	Compression Ratio		Should be 16.1:1	
9	Aspiration		Should be turbocharged air to air after cooled	
10	Engine Type		Should be USA/EU standard min. 4 cycle diesel Engine	
11	Frequency		Should be minimum 50 Hz	
12	Genset Power Rating		Should be 275 kVA at Standby, min. 250 kVA at Prime, and Power factor with fan should be 0.8	
13	100% load with fan		Fuel Consumption should not be more than 53 liter per hour at prime	
14	75% load with fan		Fuel Consumption should not be more than 41 liter per hour at prime	
15	Cooling System Radiator air flow restriction		The radiator airflow restriction should not exceed 0.12 kPa to ensure optimal cooling performance at prime	
16	Radiator air flow		Minimum airflow of min. 405 cubic meters per minute should be maintained through the radiator to meet system efficiency	
17	Engine coolant capacity		The engine's coolant should be 13-15 liters to prevent overheating	
18	Radiator coolant capacity		The radiator itself should accommodate approximately 42 liters of coolant	
19	Combustion air inlet flow rate and Air Inlet Temperature		Air inlet flow rate should be 15m ³ /min or better, and the air inlet temperature must not exceed 49 °C at prime	
20	Exhaust stack gas temperature		Gas temperature must not exceed 470°C±1°C	
21	Exhaust gas flow rate		System must maintain a minimum exhaust gas flow rate of 39m ³ /min at prime	
22	Exhaust system backpressure		Backpressure must not exceed 10 kPa	
23	Heat rejection to jacket water		Should be 103kW or better at prime	
24	Total Heat rejection to exhaust		Should be 162kW or better at prime	
25	Heat rejection to after cooler		Should be 27.6kW or better at prime	
26	Heat rejection to atmosphere from engine		Should be 32.8kW or better at prime	

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Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
27	Emission Limit		The emissions of nitrogen oxide should not exceed 4218 mg/Nm ³ . Carbon monoxide emissions must be limited to no more than 718 mg/Nm ³ . Hydrocarbon emissions should not surpass 14.5 mg/Nm ³ , while particulate matter emissions must be kept below 30.7 mg/Nm ³ at prime.	
28	Built-in Fuel tank and Injection System		The generator shall include a built-in fuel tank with a minimum capacity of 550liters. The fuel injection system must be HEUI	
29	Alternator Voltages		Should be adjustable within 230 V – 415 V range	
30	Control Panel		The bidder should supply a control panel of the same brand as the generator	
			Control Module shall be designed for compatibility with a wide range of generator applications, operation and monitor engine parameters	
			Should display warnings, shutdown information, and operational status via a back-lit LCD and LEDs, with optional remote PC monitoring capability	
			Should be equipped with a 4-line back-lit LCD supporting multiple languages and five-key menu navigation	
			Should Include data logging and an internal PLC editor, with protection disable functionality and PIN-protected front panel configuration	
			Should be configurable via USB and RS-485 interfaces, with an integrated power-save mode	
			Should support 3-phase generator sensing and protection and 3-phase mains (utility) sensing and protection	
			Should support automatic load transfer control	
31	Certifications		Should provide Fuel usage monitoring, low fuel alarms	
			Bidder should provide the following certificates during the commissioning. Without these certifications commissioning will not be accepted:	
			1. Engine test Data	
			2. Generator test Data	
			3. Performance test Data	
			4. System test Data	
			5. Test Spec	
			6. Water Jacket test	
			7. Engine Rear Side Load test	
32	Documentations		8. Engine Front Side Load test	
			9. Engine Friction test	
32	Documentations		Bidder must submit Manufacturer Authorization Letter direct from OEM along with bid document.	
33	Warranty		Bidder must provide three (03) years warranty from the date of commissioning. Proposed brand should have local authorized service center. Evidence should be submitted along with the proposal.	

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6.2.2.27 GTP of Related works for Generator

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Sound Attenuated Canopy		The generator should be enclosed in a sound attenuated canopy constructed with plain (GP) sheet. Material thickness shall be: Main Body – SWG 16, Top – SWG 16, Bottom – SWG 14, and Door – SWG 16. The canopy shall be powder-coated. The interior shall be lined with glass wool insulation for sound absorption, protected by a mesh wire iron net. The enclosure shall be designed to ensure sound Level 75 dB@3M.	
2	Auto Transfer Switch (ATS)		Bidder should provide required Auto Transfer Switch (ATS). And breaker brand should be SCHENIDER ELECTRIC/ ABB.	
3	Soundproof Silencer System for 250 KVA Diesel Generator		Supply and installation of a soundproof residential-type silencer suitable for a 650 KVA diesel generator, fabricated from SWG-14 MS sheet, purported sheet, and internally filled with rock wool for effective noise attenuation. The silencer shall have a single 5" diameter inlet and a single 5" diameter outlet, with overall dimensions of 72" in length and 22" in diameter.	
4	Exhaust Pipe System & Accessories		Bidder should be responsible for supply and installation of an 5-inch diameter exhaust piping system with Insulation complete with all necessary fittings and mounting supports. The system should consist of 10 Meter of mild steel (MS) pipe, MS elbows, MS flanges, and stainless steel (SS) flexible pipe. To ensure secure and leak-proof connections, the installation will also include halide gaskets, 16mm x 75mm MS nut, bolt, and washer sets, as well as 16mm MS royal bolts, all to be provided as required. Support Structure: Room Inside: MS angle supports for exhaust pipe alignment Room Outside: Complete structure including: - 3" dia, 20 ft long MS Pipe Pole – 1 pc - MS Base Plate – 10" x 10" x 10mm - MS C Channel – 3" x 1½" x 5mm - MS Angle – 1½" x 1½" x 3mm - MS Royal Bolts – as required	
5	Radiator Hot Air Passing Ducting		Supply and fabrication of hot air ducting for the radiator, using SWG-22 GP sheet with 1½"x1½"x3mm MS angle flange. Includes canvas cloths, MS nuts, bolts, washers, roping screws, and MS royal bolts — all materials and accessories complete in all	

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Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
			respects for proper installation and hot air discharge.	
6	Earthing Boring Works		Bidder should be responsible for earthing system supply & Installation Earthing Boring Work Should be as follows Boring Depth: 120 RFT GI Pipe: 10 RFT at top and 10 RFT at bottom Copper Wire: 6mm Earthing Cable (Pit to DG Room) 6mm Copper Wire, Length: 10 meters Earthing Bus Bar Size: 300mm x 50mm x 6mm With complete connecting facilities All materials must be supplied and installed complete in all respects, following standard electrical safety guidelines.	
7	Earthing Cable		Bidder should consider below cables for earthing work	
			1x150RM Earthing Cable BYA	
			1x70RM Earthing Cable BYA	
			1x50RM Earthing Cable BYA	
8	Control Cable		Bidder will be responsible for supply and installation 2x2.5RM PVC Flexible Control Cable	
9	Cable Ladder		Ladder should be designed with sufficient width to accommodate all required cables. Should be fabricated from 2"x2"x3mm MS angle and 2"x3mm MS flat bar, assembled with MS royal bolts and mounted using ladder fitting supports. Finished with red oxide paint.	
10	Battery Electrolyte		Bidder should be responsible for providing required Battery Electrolyte	
11	Civil work and Ventilation Work		The bidder shall be responsible for all necessary site preparation works related to generator installation. This includes construction of the generator room size (LxWxH): (17'x14'x17.5'), provision for cable routing and required drainage systems, and any other associated civil works required to ensure proper, safe, and complete installation of the generator. Additionally, the bidder shall supply and install a 2x30-inch diameter blower drum fan for room inlet and exhaust air circulation, ensuring adequate ventilation for generator operation.	
12	Output Cable		The bidder should be responsible for the supply and installation of 1 x 70 RM NYY-type power cable (Per phase 2 Cable), which should run from the generator to ATS panel, ATS to LT ensuring proper termination and routing in compliance with electrical standards.	
13	Accessories		All necessary cable accessories shall be supplied to ensure proper termination and management of power and earthing cables.	

Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
			This includes power cable lugs, earthing cable lugs, PIV tape, AMPS tape, and cable ties, along with any other required items to complete the installation.	
14	Installation		Generator installation, ATS, Electrical work, civil works, all related work to make the whole system functional must be ensured by the bidder during installation process.	
15	Consumables		The bidder shall supply all required consumables for initial commissioning after installation	
16	Warranty		Bidder must provide three (03) years standard warranty	

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