# Section 6. Schedule of Requirements

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| **Supplying, installing, testing & commissioning of 200 KVA Emergency Generator (1 Set) including necessary L.T. Cable for under Construction 20 Storied Tower Building with 20 Storied Foundation of Shaheed Bir Muktijoddha Sheikh Kamal Tower, University of Dhaka.**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Item No.** | **DESCRIPTION OF ITEM.** | **Unit** | **Qty.** | **Rate  in Taka** | **Amount  in Taka** | |  | **200 KVA DIESEL GENERATOR** |  |  |  |  | | 1 | THREE PHASE GENERATOR (WITH AUTO TRANSFER SWITCH) |  |  |  |  | | Supply of 400 & 230 V, 3-Phase, 4-Wire, 50 Hz, Air/ Water Cooled Floor Mounted Indoor type Following Continuous Capacity (Prime power) Electric Generating Set Suitable for Tropical Zed Country Complete with Four Stroke, 1500 RPM, Diesel Engine with all Standard Accessories viz. 12/24 Volt DC Battery & Auto Battery Charger With Ammeter, Radiator Assembly Oil & Oil & Fuel Pump, Auto Speed Governor, Air Cleaner, Fuel & Oil Tank Level & Oil Pressure Gauge, RPM & Hour Meter Start & Stop Switch Exhaust Silencer, Vibration Isolator, Mounting Steel Base Frame etc including Safety & Protection Device viz. Auto Shut Off With Indicators for Overload, Over & Under Voltage High Temperature, Low Oil Pressure Over Speed Low Fuel Level etc. coupled with Brush Less, Self-Excited Alternator Having Control Panel with Auto Voltage Regulator Voltmeter & Ammeter with Selector Switch Frequency Meter. |  |  |  |  | | TPMCCB of Required Rating for Overload & instantaneous Short Circuit Release, Manual Change Over Switch Indicator for ON-OFF-TRIP etc. including Maintenance Tools- 03 Sets of Detailed Technical Catalogues & Maintenance Manual and Manufactured, Assembled and Tested in Accordance with NEMA/IEC/VDE/JIS Standards (subject to satisfy standard test and approved by P.W.D). |  |  |  |  | | **With ATS & Sound Attenuated Acoustically Treated Canopy ((Maximum Sound Level: 75 dBA at 07 Meter Distance from Generator in the Room).** |  |  |  |  | | The Generator Set shall be Manufactured/ Assembled and Tested in USA/ UK/ JAPAN/ EU Countries. The Diesel Engine of Generating Set shall be of Perkins (UK)/ DEUTZ (Germany)/ Cummins (UK)/ Mitsubishi (Japan)/ Volvo (Sweden)/ KOHLER (France)/ YANMAR (Japan)/ CAT (USA) Brand & Alternator shall be of Stamford (UK)/ MECC ALTE Spa (ITALY)/ LEROY SOMER (ITALY)/ Kohler (France)/ CAT (USA) Brand. The Engine, Alternator, ATS, Canopy Shall also be Manufactured & Tested as per Relevant Standards in USA/ UK/ JAPAN/ EU Countries & Accepted / approved by the Engineering-in-charge. |  |  |  |  | | **GENERATOR - 200 KVA** | each | 1.00 |  |  | | 2 | **Installation, testing** & commissioning of following electric generator on prepared cc pad with the help of necessary T & P, skilled labour, technician, Engineer including 2 hrs / 5 day trial run operation by skilled operator with supply of necessary fuel & lubricant as per manufacturers instruction manual and in accordance with relavent IEC/NEMA/VDE/JIS standards so that vibration transfer rate to foundation shall be almost zero.200KVA – 300 KVA manual/auto/auto with soundproof acoustically treated canopy/mobile generating set with soundproof acoustically treated canopy. | each | 1.00 |  |  | | 3 | **GENERATOR BATTERY** Supply of the following generator batteries accepted /approved by the Engineer-in-charge. **Volt : 12 V Amp : 200 AH Plate : 29** | each | 4.00 |  |  | | 4 | **AUTOMATIC BATTERY CHARGER:** Automatic battery charger input voltage 220V + 10%, single phase, 50Hz suitable for charging at constant voltage/current having necessary protective device against reverse battery terminal, short circuit complete with indicators, volt & amp meters, charging selector switch, ventilation fan etc. as required of following capacity brand accepted /approved by the Engineering-in-charge.) 24 V DC 15 amp. |  |  |  |  | |  | **Brand must be mentioned by the bidder:** | each | 1.00 |  |  | | 5 | **Supply and Installation of Automatic Load Transfer Switch Plant** complete with2 x 400 A / 2 x 250 A three phase 400V, Magnetic contractor, Bus-bar, Electronic relay control ( PCB brand), Timer, indicator etc. Locally factory assemble in 16SWG sheet steel clad dust or vermin proof, free standing floor mounting spray resin powder coat painted cabinet. Contractor relays, PCB shall couple NEMA/VDE/ IEC/JIS/BSS standard. | Nos | 1.00 |  |  | | 6 | **Earthing the electrical installation** with 40 mm (1.5") dia G.I. pipe (earth electrode) having 6.35 mm. dia hole across the pipe at 305 mm. interval securely bonded by soldering with 2 nos. of No-2 SWG HDBC earth leads (at the top of the electrode) with its protection by 20 mm. (3/4") dia G.I. pipe up-to plinth level run at a depth of 609.6 mm (2 ft.) below G.L up-to main board to be earthed including necessary connecting copper sockets, bolts, nuts, etc. complete for maintaining earth resistance within 1 ohm. **Depth of bottom of main electrode at 37338 mm. (122.5 ft) from GL & length of electrode 36576 mm. (120 ft).** | each | 2.00 |  |  | | 7 | Construction of **earthing inspection pit** inside measurement 600 mm x 600 mm with 250 mm thick brick in cement mortar (1:4) with 100mm thick RCC top slab (1:2:4) with 1% re-enforcement 450 mm dia water sealed CI man-hole cover with locking arrangement including necessary earth works, site filling and one brick flat soling 75 mm thick (1:3:6) base concrete for making inlet channel & 12mm thick (1:2) cement plaster with neat finishing etc. all complete up to a depth of .75 meter. | each | 2.00 |  |  | | 8 | Providing & fixing 25.4 (1”) dia. 457 mm ( 1.5 ft) long **Solid Copper Rod** with sharp top end for arresting lightning securely bonded with 6.6 mm thick 150 mm x 150 mm copper base plate to be recessed in wall complete with nuts bolts CC works etc. | Set | 2.00 |  |  | | 9 | Providing and drawing No 2.10 SWG G.I hard drawn bare Copper Wire in overhead line at proper sag complete with necessary binding wire as required as per direction of the Engineer in charge. H.D.B.C. Copper Wire. | kg | 50.00 | 857.000 | 42850.000 | | 10 | Supply & fixing the following capacities **Carbon-di-Oxide** type fire extinguisher suitable for repeated use complete with wall bracket, discharge nozzle etc. as per sample accepted & approved by the Engineering-in-charge. **Fire Extinguisher 5 Kg. capacity.** |  |  |  |  | |  | **Brand must be mentioned by the bidder:** | each | 4.00 |  |  | |  | **Underground wiring (NYY) (through PVC pipe)** |  |  |  |  | | 11 | Providing & laying of the following PVC insulated & sheathed cable (NYY) / (XLPE) insulated & PVC sheathed cable (2XY) with PVC insulated Green / White colour ECC wire (BYA) connecting at both ends, through PVC pipe & accessories in the following manner. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to relevant IEC / BDS / BS / VDE standards and as per detailed specification mentioned in **Annexure-1**. The work shall be carried out as per direction & approval of the Engineer. |  |  |  |  | | In pucca floor through PVC pipe by cutting trench of necessary size and mending the damages good by brick soling, 75 mm (1:2:4) CC work with neat cement finishing etc. |  |  |  |  | | **Cable manufacturer(s) must have valid test certificate from internationally accrediated laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer** |  |  |  |  | | 11.1 | 1C-4x16 sqmm (NYY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 50 mm having wall thickness of 2.5 mm | meter | 50.00 |  |  | | 11.2 | 1C-4x25 sqmm (NYY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 50 mm having wall thickness of 2.5 mm | meter | 100.00 |  |  | | 11.3 | 1C-4x185 sqmm (NYY) with 95 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 100 mm having wall thickness of 3.4 mm | meter | 45.00 |  |  | | 12 | HEAT SHRINKABLE KIT FOR Installation of cable kit. Approved by the Engineering-in-charge. | Lot | 1.00 |  |  | | 13 | CABLE LUGS SUITABLE FOR Installation of cable lugs. Approved by the Engineering-in-charge. | Lot | 1.00 |  |  | | 14 | Supplying of 415V, 3 phase, 50Hz following capacity control circuit breaker feeder unit as per following specification with thermal overcurrent & instantaneous electromagnetic short-circuit release manufactured and tested as per NEMA / IEC / VDE / BS / JIS standards (adjustable type above 100A rating) for sub-station L.T panel. |  |  |  |  | | Rated operating voltage : 220-690 V. Rated insulation voltage : 690 volt. Rated impulse withstand voltage : 6KV. Utilization category : A or B  accepted / approved by the Engineering-in-charge. |  |  |  |  | | **Brand must be mentioned by the bidder:** |  |  |  |  | | 1000A (65KA )TPMCCB | Each. | 2.00 |  |  | | 15 | Providing & fixing on a prepared board 250 volt grade following Double pole miniature circuit breaker (DPMCBS) having minimum breaking capacity 6-KA with thermal over-current and instantaneous electromagnetic short circuit release provision. Brand accepted / approved by the Engineering-in-charge. |  |  |  |  | | **Brand must be mentioned by the bidder:** |  |  |  |  | | 5 - 40 Amps. | Each. | 154.00 |  |  | | 16 | Providing & fixing 230V, 50Hz, single phase, 10 – 40 Amps electric energy meter (KWH meter) steel body with glass cover on prepared board. Brand approved by PDB / DPDC or simiar organization. |  |  |  |  | |  | **Brand must be mentioned by the bidder:** | Each. | 154.00 |  |  | |  | **TOTAL COST =** | | | |  | |

In Word:

Sd/-

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Signature of the Contractor Executive Engineer-Elect (Zone-1/Ka)

Address- University of Dhaka

This Schedule of Requirements contains [insert number] corrections duly initialled and signed by the.Tenderer

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Note

1. It is suggested that the Tenderer uses these sheets of the Schedule of Requirements in order to avoid any manipulation, distortion and inadvertent mistakes or omissions in course of preparing the Tender by the Tenderer

2. Tenderer’s profit, overheads, VAT and all other charges including corresponding incidental service charges for banking shall be deemed included in all the unit rates and prices in the Schedule of Requirements against each basic item or activity and, thus forth the total Tender Price quoted by the Tenderers.

3. Follow the Guidance notes under Section 6 in filling this Schedule