

Tender Inviting Authority: Registrar of Nalanda University

Name of Work: DG set works for five Priority Buildings under Tender Package 4D

Contract No: NU/NU/Main Camp/Package4D/Ele/09 Dated 08.11.2018.

| Name of the Bidder/<br>Bidding Firm /<br>Company :  |   |          |        |                         |                                     |   |
|---|---|----------|--------|-------------------------|-------------------------------------|---|
| <b>PRICE SCHEDULE</b>   |   |          |        |                         |                                     |   |
| (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only ) |   |          |        |                         |                                     |   |
| NUMBER #  | TEXT #  | NUMBER # | TEXT # | NUMBER                  | NUMBER #                            | TEXT #  |
| Sl. No.   | Item Description  | Quantity | Units  | Estimated Rate in Rs. P | TOTAL AMOUNT Without Taxes in Rs. P | TOTAL AMOUNT In Words   |
| 1   | 2   | 4        | 5      | 6                       | 53                                  | 55  |
| 1   | SITC of 200KVA x 2 Nos Silent DG with AMF and Sync Panel features conforming to the SLD and SCADA System.The work shall be executed as per CPWD General Specifications for Electrical Works( Part VII DG Sets - Latest Edition), as per relevant IS and as per directions of Engineer-in-charge. Additional specifications are to be read in conjunction with above and in case of variations, specifications given in Additional conditions shall apply. Nothing extra shall be paid on this account. The tenderer in his own interest must visit the site and familiarise himself with the site conditions before tendering To be Installed in Outreach/ADMIN Building  |          |        |                         |                                     |   |
| 1.01  | SITC of 'Silent Type' Diesel Generating set alongwith required control cabling, Cu. earthing system& Connection through 50x5mm Cu strips upto 100meter, control relays & all accessories having Prime Power Rating of 200 KVA, 415 volts at 1500 RPM, 0.8 lagging power factor at 415 V suitable for 50 Hz, 3 phase system & for 0.85 Load Factor and consisting of the followings:<br>a) Diesel Engine:Diesel engine minimum 4 stroke water cooled, electric start, of suitable BHP at 1500 RPM suitable for above output of alternator at 55 Degree C, 50% RH & at 540 Meter MSL and conforming to BS 5514, BS 649, IS 10000, capable of taking 10 % over loading for one hour after 12 hours of continuous operation. The engine will be fitted complete with all the required accessories.<br>b) Engine mounted Instrument Panel fitted with and having digital display for following:<br>(i) Start-stop switch with key(ii) Water temperature indication(iii) Lubrication oil pressure indication(iv) Lubrication oil temperature indication(v) Battery charging indication(vi) RPM indication(vii) Over speed indication(viii) Low lub. Oil trip indication(ix) Engine Hours indication(b)<br>Alternator :Synchronous alternator rated at 200 KVA, 415 volts at 1500 RPM, 3 phase 50 Hz, AC supply with 0.8 lagging power factor at 40 Degree C, 50% RH. The alternator shall be having SPDP enclosure, brushless, continuous duty, self-excited and self-regulated through AVR conforming to IS: 4722/BS 2613 suitable for tropical conditions and with class-H insulation.<br>c) Fuel Tank:Daily service fuel tank fabricated out of 3 mm thick M.S. sheet complete with all standard accessories and fuel piping between fuel tank and diesel engine with MS class 'C' pipes of suitable dia. Complete with valves, level indications & accessories as required as per specifications. This scope includes SITC of required fuel tank & piping to the DG Set with pump etc compete as required.<br>d) Exhaust System:Dry exhaust manifold with hospital exhaust silencer and catalytic convertor. Supplying and fixing exhaust gas piping of suitable dia welded black MS. B class pipe conforming to IS:3589 cutout required lengths and installed with necessary bends, supports and clamps, anti-vibration mountings, insulation of exhaust system with mineral wool/rock wool, 50 mm thick wire mesh & aluminium cladding etc, as required. Supply, Making, fabrication of MS structure for support of exhaust pipe i/c RCC frame work and foundation as may be required.<br>e) Starting System:12V/24V DC starting system comprising of starter motors: voltage regulator and arrangement for initial excitation complete with suitable nos. of batteries (no. of plates, Amp. Hour & Volt - capacity to be specified by vendor with technical bid, lead acid type) as required as per specifications.<br>f) AMF DG controller panel & supporting features for the Synchronisation as per detail & specifications provided in the tender herewith & as per requirement based on SLD. AMF DG controller panel with , PLC , Control Wiring etc, however, the University will provide the other incommer/outgoing and sources otherthan these DG set ) to ensure the logic control as per detail & specifications provided in the tender herewith & as per requirement based on SLD.This shall include all the MCCB / ACB as asked in the SLD to control the power from each DG to DG Synch panel & one out going feeder to the system further. All required relays, control logics, electronic, protection relays to facilitate Auto Mains Falure, Auto Synchronising & Load Sharing shall be part of this panel. 1 synch panel to be provided to synch, auto share power of these two 200 KVA DG Set ( refer SLD ).<br>g) Acoustic and weather proof enclosure with arrangement for fresh air intake for cooling of the engine & alternator, extraction, discharging hot air in to the atmosphere as per specifications. | 2.000    | SET    | 1985724.00              | 3971448.00                          | INR Thirty Nine Lakh Seventy One Thousand Four Hundred & Forty Eight Only   |
| 1.02  | Synchronization Panel with all accessories(MCCB/MCB/MOTOR/Contactor etc) conforming to the SLD for Parallel Load Operation, Sequence Load as per the building Load, etc with Open rotocall SACDA System. This is required for the operation of 200KVAx2 Nos Silent DG   | 1.000    | SET    | 2284878.00              | 2284878.00                          | INR Twenty Two Lakh Eighty Four Thousand Eight Hundred & Seventy Eight Only |
| 1.03  | Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required as er the DSR 2018-E&M, 5.14, The system looing and connections will be part of the DG set. This Line Item is being rovided for the connection of others existing system  | 25.000   | METER  | 1009.00                 | 25225.00                            | INR Twenty Five Thousand Two Hundred & Twenty Five Only                     |
| 1.04  | Cu Plate Earthing for Each DG set and Panel : Earthing with copper earth plate 600 mm X 600 mm X 3 mm mmthick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre AS ER DSR 2018, E&M 5.6   | 16.000   | Nos    | 10724.00                | 171584.00                           | INR One Lakh Seventy One Thousand Five Hundred & Eighty Four Only           |
| 1.05  | Oen protocall SCADA Dislay(preferably 32Inch) with 30 Minutes of Backup through UPS   | 1.000    | Set    | 253875.00               | 253875.00                           | INR Two Lakh Fifty Three Thousand Eight Hundred &                           |

|                               |  |       |      |           |                      |   |               |
|-------------------------------|--|-------|------|-----------|----------------------|---|---------------|
| 2                             | <p>SITC of 82.5KVA with AMF Panel and ATS Facilities. The work shall be executed as per CPWD General Specifications for Electrical Works( Part VII DG Sets - Latest Edition), as per relevant IS and as per directions of Engineer-in-charge. Additional specifications are to be read in conjunction with above and in case of variations, specifications given in Additional conditions shall apply. Nothing extra shall be paid on this account. The tenderer in his own interest must visit the site and familiarise himself with the site conditions before tendering To be Installed in Outreach/ADMIN Building .SITC of 'Silent Type' Diesel Generating set alongwith required control cabling, Cu. earthing system &amp; Connection through 50x5mm Cu strips , control relays &amp; all accessories having Prime Power Rating of 82.5 KVA, 415 volts at 1500 RPM, 0.8 lagging power factor at 415 V suitable for 50 Hz, 3 phase system &amp; for 0.85 Load Factor and consisting of the followings:</p> <p>a) Diesel Engine:Diesel engine 4 stroke water cooled, electric start, of suitable BHP at 1500 RPM suitable for above output of alternator at 55 Degree C, 50% RH &amp; at 540 Meter MSL and conforming to BS 5514, BS 649, IS 10000, capable of taking 10 % over loading for one hour after 12 hours of continuous operation. The engine will be fitted complete with all the required accessories.</p> <p>b) Engine mounted Instrument Panel fitted with and having digital display for following:<br/> (i) Start-stop switch with key(ii) Water temperature indication(iii) Lubrication oil pressure indication(iv) Lubrication oil temperature indication(v) Battery charging indication(vi) RPM indication(vii) Over speed indication(viii) Low lub. Oil trip indication(ix) Engine Hours indicationb) Alternator :Synchronous alternator rated at 82.5 KVA, 415 volts at 1500 RPM, 3 phase 50 Hz, AC supply with 0.8 lagging power factor at 40 Degree C, 50% RH. The alternator shall be having SPDPEnclosure, brushless, continuous duty, self-excited and self-regulated through AVR conforming to IS: 4722/BS 2613 suitable for tropical conditions and with class- H insulation.</p> <p>c) Fuel Tank:Daily service fuel tank fabricated out of 3 mm thick M.S. sheet complete with all standard accessories and fuel piping between fuel tank and diesel engine with MS class 'C' pipes of suitable dia. Complete with valves, level indications &amp; accessories as required as per specifications. This scope includes SITC of required fuel tank &amp; piping to the DG Set with pump etc complete as required.</p> <p>d) Exhaust System:Dry exhaust manifold with hospital exhaust silencer and catalytic convertor. Supplying and fixing exhaust gas piping of suitable dia welded black MS, B class pipe conforming to IS:3589 cutout required lengths and installed with necessary bends, supports and clamps, anti-vibration mountings, insulation of exhaust system with mineral wool/rock wool, 50 mm thick wire mesh &amp; aluminium cladding etc, as required. Supply, Making, fabrication of MS structure for support of exhaust pipe i/c RCC frame work and foundation as may be required.</p> <p>e) Starting System:12V/24V DC starting system comprising of starter motors: voltage regulator and arrangement for initial excitation complete with suitable nos. of batteries (no. of plates, Amp. Hour &amp; Volt - capacity to be specified by vendor with technical bid, lead acid type) as required as per specifications.</p> <p>f) AMF + ATS DG controller panel &amp; Auto Load Shifting to be provided - For Each DG set seerately - <b>One silent DG set to be installed at LAB/Accademic Building and Another DG with AMF(Automatic Load Tranfer Facilities -Auto Main Failure Panel) will be Installed at School Building. This shall include all the MCCB / ACB as asked in the SLD to control the power shifting facilities with all work, relays etc.</b></p> <p>g) Acoustic and weather proof enclosure with arrangement for fresh air intake for cooling of the engine &amp; alternator, extraction, discharging hot air in to the atmosphere as per specifications.</p> | 2.000 | Set  | 962360.00 | <b>1924720.00</b>    | INR Nineteen Lakh Twenty Four Thousand Seven Hundred & Twenty Only  |               |
| 3                             | AMC Support and comprehensive maintenance support during DLP Period of 2 Yers for all four number DG set with AMF Panel and Sync Panel (All System)  | 2.000 | Year | 25000.00  | <b>50000.00</b>      | INR Fifty Thousand Only   |               |
| <b>Total in Figures</b>       |  |       |      |           | <b>8681730.00</b>    | INR Eighty Six Lakh Eighty One Thousand Seven Hundred & Thirty Only |               |
| <b>Quoted Rate in Figures</b> |  |       |      |           | <b>Select</b>        | <b>0.00</b>   | INR Zero Only |
| <b>Quoted Rate in Words</b>   |  |       |      |           | <b>INR Zero Only</b> |   |               |