

| ANNEXURE-II                                                                                         |                                                                                                                                                                                                                                                                                                                                                        |      |          |           |              |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------|--------------|
| BILL OF QUANTITY                                                                                    |                                                                                                                                                                                                                                                                                                                                                        |      |          |           |              |
| DESIGN, SUPPLY, CIVIL WORK AND ETC OF 220KV TRANSMISSION LINE & TOWERS (DOUBLE CIRCUIT)- CIVIL PART |                                                                                                                                                                                                                                                                                                                                                        |      |          |           |              |
| Project                                                                                             | North Karanpura Super Thermal Power Project (3x660MW)                                                                                                                                                                                                                                                                                                  |      |          |           |              |
| Customer                                                                                            | NTPC Ltd.                                                                                                                                                                                                                                                                                                                                              |      |          |           |              |
| Doc No.                                                                                             | TB-316-369-031TL, Rev-02                                                                                                                                                                                                                                                                                                                               |      |          |           |              |
| S. No.                                                                                              | Item / Work description                                                                                                                                                                                                                                                                                                                                | Unit | Quantity | Unit Rate | Amount (Rs.) |
| 1                                                                                                   | Civil Works                                                                                                                                                                                                                                                                                                                                            |      |          |           |              |
| 1.1                                                                                                 | Earthwork in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30cm in depth 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rain water/subsoil seepage water and disposal of excavated earth upto 100m and lift upto 3.5m, disposed earth to be levelled and neatly dressed.       |      |          |           |              |
| 1.1.1                                                                                               | All kinds of soil.                                                                                                                                                                                                                                                                                                                                     | Cum  | 21000    |           |              |
| 1.1.2                                                                                               | Ordinary rock                                                                                                                                                                                                                                                                                                                                          | Cum  | 1000     |           |              |
| 1.1.3                                                                                               | Hard rock(requiring blasting)                                                                                                                                                                                                                                                                                                                          | Cum  | 1000     |           |              |
| 1.1.4                                                                                               | Hard rock(blasting prohibited)                                                                                                                                                                                                                                                                                                                         | Cum  | 1000     |           |              |
| 1.2                                                                                                 | Filling available excavated earth (including rock) in trenches, plinth, sides of foundations, etc., in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 100m and lift upto 3.5m.                                                                                                              | Cum  | 20500    |           |              |
| 1.3                                                                                                 | Carriage & disposal of surplus excavated earth/rock beyond initial lead by mechanical means not necessarily all the times on pucca roads, including loading, unloading, dressing of excavated material, etc., complete as per specifications -.                                                                                                        |      |          |           |              |
| 1.3.1                                                                                               | Lead upto 1 km.                                                                                                                                                                                                                                                                                                                                        | Cum  | 4000     |           |              |
| 1.4                                                                                                 | Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.                                                                                                                                                                                                       |      |          |           |              |
| 1.4.1                                                                                               | 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size)                                                                                                                                                                                                                                                                         | Cum  | 600      |           |              |
| 1.5                                                                                                 | Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement-All work up to plinth level:                                                                                                                                                                  |      |          |           |              |
| 1.5.1                                                                                               | M20 Grade (nominal mix)                                                                                                                                                                                                                                                                                                                                | Cum  | 2500     |           |              |
| 1.6                                                                                                 | Centering and shuttering including strutting, propping, etc., and removal of form for:                                                                                                                                                                                                                                                                 |      |          |           |              |
| 1.6.1                                                                                               | Foundations, footings, bases of columns, etc., for mass concrete.                                                                                                                                                                                                                                                                                      | sqm  | 1900     |           |              |
| 1.6.2                                                                                               | Columns, Pillars, Piers, Posts and Struts .                                                                                                                                                                                                                                                                                                            | sqm  | 1100     |           |              |
| 1.7                                                                                                 | Steel reinforcement -Cold twisted bars /TMT- Fe 500 (to be procured from NTPC approved sources as per annexure I)                                                                                                                                                                                                                                      |      |          |           |              |
| 1.7.1                                                                                               | Fixing including straightening, cutting and bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete. Reinforcement steel shall be supplied by BHEL free of cost at site(NKTPP end). The quoted rate should be inclusive of unloaing at site , watch and ward, shifting to required loaction etc. also. | kg   | 247000   |           |              |
| 1.8                                                                                                 | Supply & Fixing of stub angles in position with necessary arrangements all complete as per drawing and directions of Engr-in-Charge.(weight of stub shall only be measured for payment of this item)                                                                                                                                                   | kg   | 19000    |           |              |
| 1.8                                                                                                 | Random rubble masonry with hard stone in foundation and plinth including levelling up with cement mortar 1:6:12(1cemet: 6 coarse sand: 12 graded stone aggregate 20mm nominal size ) upto plinth level with :                                                                                                                                          |      |          |           |              |
|                                                                                                     | cement mortar 1:6 (1 cement : 6 coarse sand)                                                                                                                                                                                                                                                                                                           | Cum  | 1000     |           |              |
|                                                                                                     | <b>Total Amount (Rs.)</b>                                                                                                                                                                                                                                                                                                                              |      |          |           |              |

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| S. No.                                                                                              | Item / Work description                                                                                                                                                                                                                                                                                                                    | Unit | Quantity | Unit Rate | Amount (Rs.) |
| <b>Notes:-</b>                                                                                      |                                                                                                                                                                                                                                                                                                                                            |      |          |           |              |
| 1                                                                                                   | The quantities mentioned in the BOQ are tentative and Quantity of any item may vary upto any extent but the overall contract value may vary by +- 30%.                                                                                                                                                                                     |      |          |           |              |
| 2                                                                                                   | Any material/services required for successful completion of the project but not covered in the BOQ shall be deemed to be included in the scope of contractor without any cost implications to BHEL. <b><u>The bidder is advised to visit North Karanpura site before submission of bid.</u></b>                                            |      |          |           |              |
| 3                                                                                                   | Make of items and their sources to be supplied/used under this contract shall be subject to acceptance by customer/BHEL at contract stage.                                                                                                                                                                                                 |      |          |           |              |
| 4                                                                                                   | Handling, storage, transportation, loading, unloading, shifting etc. of all materials to required locations shall be in the scope of the bidder.                                                                                                                                                                                           |      |          |           |              |
| 5                                                                                                   | Bidder may note that owner (NTPC/BHEL) shall not pay any compensation for any loss or damage to the properties during work of execution of transmission line job or for tree cutting due to bidder's work.                                                                                                                                 |      |          |           |              |
| 6                                                                                                   | MS welding - apply red lead paint then aluminium paint then bitumen after welding.                                                                                                                                                                                                                                                         |      |          |           |              |
| 7                                                                                                   | GI welding - apply 2 coats of cold galvanising anti corrosive paint after welding.                                                                                                                                                                                                                                                         |      |          |           |              |
| 8                                                                                                   | 10% welding joints in earthing shall be tested for dye penetration test.                                                                                                                                                                                                                                                                   |      |          |           |              |
| 9                                                                                                   | Quoted rates are deemed to be inclusive of miscellaneous works, viz.. erection of clamps and connectors, phase colour discs etc.                                                                                                                                                                                                           |      |          |           |              |
| 10                                                                                                  | Right of way is not in Bidder scope, but tree cutting (if any) is in the scope of bidder. Please refer special conditions of contract and customer technical specification                                                                                                                                                                 |      |          |           |              |
| 11                                                                                                  | All associated items, though specifically not mentioned but required for safe and satisfactory execution and commissioning of transmission line will also be treated as included and same shall be supplied & ETC to be done at no extra cost to BHEL/ NTPC.                                                                               |      |          |           |              |
| 12                                                                                                  | <b>For scope of supply items in contractor scope following should be followed .</b><br>(1)The approval of makes shall be obtained from BHEL/Customer .<br>(2)Drawings and MQP shall be submitted for approval in line with specification and relevant IS.<br>(3) Quality -Inspection & dispatch clearance shall be given by BHEL/Customer. |      |          |           |              |