

**Annexure - II****BILL OF QUANTITY FOR TRANSMISSION LINE MATERIALS BASED ON DETAILED SURVEY -  
(TYPICAL FOR REFERENCE)**

| Sl. No   | Item Description   | Unit | Quantity |
|----------|--|------|----------|
| <b>1</b> | <b>Fabrication, galvanising and supply of various type of tower &amp; tower parts, tower body / leg (equal &amp; unequal) extensions (complete) excluding bolts &amp; nuts, step bolts and stubs but including hangers, D-shackles, pack washer etc.</b> |      |          |
| (a)      | High Tensile Steel   | MT   |          |
| (b)      | Mild Steel   | MT   |          |
| <b>2</b> | <b>Fabrication, galvanising and supply of stubs &amp; cleats for various type of towers, tower extensions (complete) with pack washers, excluding bolts &amp; nuts</b>   |      |          |
| (a)      | High Tensile Steel   | MT   |          |
| (b)      | Mild Steel   | MT   |          |
| <b>3</b> | <b>Supply of bolts &amp; nuts including step bolts and spring washers for towers &amp; tower extensions, excluding for stubs</b>   |      |          |
| (a)      | Hexagonal Bolts & Nuts including Step Bolts  | MT   |          |
| (b)      | Anti theft Bolts & Nuts  | MT   |          |
| <b>4</b> | <b>Supply of Hexagonal Bolts &amp; nuts including washers for Stubs</b>  | MT   |          |
| <b>5</b> | <b>Supply of Earthing of Towers</b>  |      |          |
| (a)      | Pipe Type Earthing   | Nos  |          |
| (b)      | Counterpoise Type  | Nos  |          |
| <b>6</b> | <b>Supply of following Tower Accessories</b>   |      |          |
| (a)      | Danger Plate   | Nos  |          |
| (b)      | Number Plate   | Nos  |          |
| (c)      | Phase Plate (Set of three)   | Sets |          |
| (d)      | Circuit Plate (Set of two)   | Sets |          |
| (e)      | Anti-Climbing Device   | Nos  |          |
| (f)      | Bird-Guard (Set of six)  | Sets |          |
| <b>7</b> | <b>Design, Manufacture and Supply of following Line Materials for Transmission line</b>  |      |          |
| (a)      | Conductor (ACSR MOOSE ETC)   | kM   |          |
| (b)      | OPGW   | kM   |          |
| (c)      | GS Earthwire   | kM   |          |
| (d)      | Insulators Strings without hardware - Disc Insulators / Long Rod Insulators  |      |          |
| (i)      | 120 KN   | Nos  |          |
| (ii)     | 160KN  | Nos  |          |
| (e)      | Insulator Strings - Hardware Fittings  |      |          |
| (i)      | Double "I" Suspension Insulator String ( Suitable for 2 x n, 120 KN Disc insulators or 2x3, 120 KN Long rod insulators)  | Sets |          |
| (ii)     | Single "I" Suspension PILOT Insulator String ( Suitable for 1 x n, 120 KN Disc Insulators or 1x3, 120KN Long rod insulators)   | Sets |          |
| (iii)    | Single "I" Suspension Insulator String ( Suitable for 1 x n, 120 KN Disc Insulators or 1x3, 120KN Long rod insulators)   | Sets |          |

| Sl. No   | Item Description  | Unit | Quantity |
|--|---|------|----------|
| (iv)   | Double tension Insulator String ( Suitable for 2 x n, 120/160 KN Disc Insulators or 2x3, 160KN Long rod insulators) | Sets |          |
| (f)  | Accessories for Conductor & Earthwire   |      |          |
| (i)  | Mid span compression joint for conductor  | Nos  |          |
| (ii)   | Mid span compression joint for GS earthwire   | Nos  |          |
| (iii)  | Repair Sleeve for Conductor   | Nos  |          |
| (iv)   | Flexible Copper Bond for GS Earthwire   | Nos  |          |
| (v)  | Quadruple Spacer Damper for Conductor   | Nos  |          |
| (vi)   | Vibration Damper for 7/3.66mm GS Earthwire  | Nos  |          |
| (vii)  | Bundle Spacer for Conductor   | Nos  |          |
| (viii)   | Quadruple Rigid Spacer for Conductor  | Nos  |          |
| (ix)   | Earthwire Suspension Clamp  | Nos  |          |
| (x)  | Earthwire Tension Clamp   | Nos  |          |
| (xi)   | OPGW Suspension Clamps  | Nos  |          |
| (xii)  | OPGW Tension Clamps   | Nos  |          |
| (xiii)   | OPGW Suspension Clamps  | Nos  |          |
| (xiv)  | OPGW Grounding and Parallel groove Clamps   | Nos  |          |
| (xv)   | OPGW Vibration Dampers  | Nos  |          |
| (xvi)  | Armor rods for OPGW   | Nos  |          |
| (xvii)   | FO Approach cable   | m    |          |
| (xviii)  | x Way joint box for OPGW  | Nos  |          |
| <b>8 Benching</b>  |   |      |          |
| (a)  | All kinds of soil except fissured rock & hard rock  | Cum  |          |
| (b)  | Fissured Rock   | Cum  |          |
| (c)  | Hard Rock   | Cum  |          |
| <b>9 Work Associated with Tower Foundations for various type of towers</b>         |   |      |          |
| (a)  | Excavation in various types of soils  |      |          |
| (i)  | Dry Soil  | Cum  |          |
| (ii)   | Wet Soil  | Cum  |          |
| (iii)  | Dry Fissured Rock   | Cum  |          |
| (iv)   | Wet Fissured Rock   | Cum  |          |
| (v)  | Hard Rock   | Cum  |          |
| (b)  | Concreting (including all associated works related to foundation)   |      |          |
| (i)  | M25 Nominal Concrete Mix  | Cum  |          |
| (c)  | Reinforcement steel   | MT   |          |
| <b>10 Protection of tower footings (supply and installation)</b>                   |   |      |          |
| (a)  | Random rubble stone masonry including excavation (1:5 cement mortar)  | Cum  |          |
| (b)  | Stone bound in galvanising wire netting including excavation  | Cum  |          |
| (c)  | M15 (1:2:4)Nominal mix Concrete for top seal cover of revetment   | Cum  |          |
| (d)  | Backfilling and gap levelling of volumes enclosed by revetment  | Cum  |          |
| <b>Note: Any other item not listed above but are required may kindly be added.</b> |   |      |          |
|  |   |      |          |
|  |   |      |          |