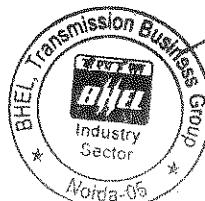


## Annexure-II

## MQP &amp; INSPECTION LEVEL REQUIREMENT

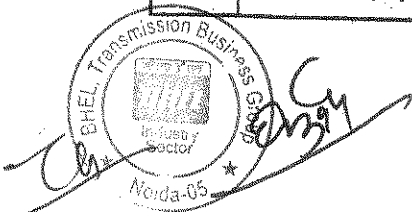
| Sl. No. | Item / Equipment                                                                                       | Requirement of MQP/TP/PAI | Inspection Level |
|---------|--------------------------------------------------------------------------------------------------------|---------------------------|------------------|
| 1 A     | Transformer /Reactor                                                                                   | Yes                       | IV               |
| 1 B     | Circuit Breakers                                                                                       | Yes                       | IV               |
| 2       | Current transformer                                                                                    | Yes                       | IV               |
| 3       | Capacitive voltage transformers/Potential transformer                                                  | Yes                       | IV               |
| 4       | Isolators                                                                                              | Yes                       | IV               |
| 5       | Lightening Arrestors                                                                                   | Yes                       | III              |
| 6       | Line Trap                                                                                              | Yes                       | III              |
| 7       | Control & Relay Panels                                                                                 | Yes                       | III              |
| 8       | Power Cables                                                                                           | Yes                       | III              |
| 9       | Control Cables                                                                                         | Yes                       | III              |
| 10      | LT Switchgear & ACDB/DCDB/MLDB/ELDB/ Lighting Panels                                                   | Yes                       | III              |
| 11      | Fire protection system                                                                                 |                           |                  |
| 11-A    | Panels, Deluge valve, Hydro pneumatic tank.                                                            | No                        | III              |
| 11-B    | Strainers, extinguishers, MS/GI pipes, Pumps, motors, air compressor, and other valves, Diesel Engines | No                        | II               |
| 11-C    | Others                                                                                                 | No                        | I                |
| 12      | Insulator (Disc, Long Rod, Solid Core)                                                                 | Yes                       | IV               |
| 13      | Conductor                                                                                              | Yes                       | IV               |
| 14      | Clamps & Connectors (including equipment connectors)                                                   | Yes                       | III              |
| 15      | Junction Box / Lighting Switch Boards / Bay MB/Telecom Equipment Cabinet                               | No                        | II               |
| 16      | Cable lugs                                                                                             | No                        | I                |
| 17      | Lighting Fixtures, Lamps & fans                                                                        | No                        | I                |
| 18      | Switches                                                                                               | No                        | I                |
| 19      | Conduits                                                                                               | No                        | I                |
| 20      | Lighting Poles                                                                                         | No                        | II               |
| 21      | MS/GI /PVC Pipes for cable trenches and lighting                                                       | No                        | I                |



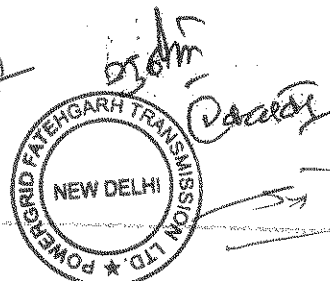
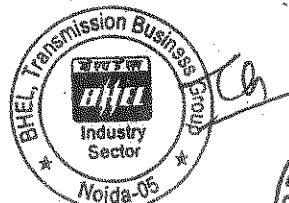
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|    |                                   |    |    |
|----|-----------------------------------|----|----|
| 22 | Hume Pipes                        | No | I  |
| 23 | Galvanized Cable trays            | No | II |
| 24 | MS/ GI Flat and earthing material | No | II |
| 25 | MS Round for Earthmat (40mm dia)  | No | I  |

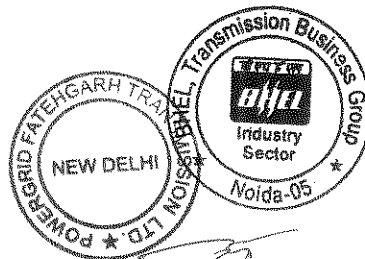
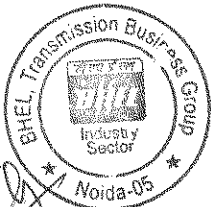
|    |                                                                                                                                       |     |     |
|----|---------------------------------------------------------------------------------------------------------------------------------------|-----|-----|
| 26 | Lighting Earthwire                                                                                                                    | No  | I   |
| 27 | Aluminium Tube & Busbar materials                                                                                                     | No  | II  |
| 28 | Outdoor Receptacle                                                                                                                    | No  | I   |
| 29 | Nut / Bolts / Spring Washers (Gr 5.6/5)                                                                                               | No  | II  |
| 30 | LT Transformer                                                                                                                        | Yes | III |
| 31 | Battery                                                                                                                               | No  | II  |
| 32 | Battery Charger                                                                                                                       | Yes | III |
| 33 | D. G. Set                                                                                                                             | No  | II  |
| 34 | Split A.C./window A.C.                                                                                                                | No  | I   |
| 35 | Substation Automation system                                                                                                          | No  | III |
| 36 | Telephone wires                                                                                                                       | No  | I   |
| 37 | Telephone sockets                                                                                                                     | No  | I   |
| 38 | Aluminium ladder                                                                                                                      | No  | I   |
| 39 | Occupancy sensors for control of lighting                                                                                             | No  | I   |
| 40 | Sub Station Structure (lattice/pipe type)                                                                                             | Yes | III |
| 41 | HG fuse                                                                                                                               | No  | II  |
| 42 | PLCC equipment Viz PLCC Terminal, Carrier equipment, Protection Coupler, Coupling Device but excluding EPAX / HF Cable/ SDH Equipment | Yes | III |
| 43 | HF Cable / GPS Clock                                                                                                                  | No  | I   |
| 44 | EPAX                                                                                                                                  | No  | I   |
| 45 | Cable Glands / Joints /Clamps/ Termination                                                                                            | No  | I   |
| 46 | Video Monitoring System                                                                                                               | No  | II  |
| 47 | Controller for switching                                                                                                              | No  | IV  |
| 48 | Solar based street lighting pole including solar panel as per technical specification                                                 | No  | III |
| 49 | Event Logger                                                                                                                          | No  | III |
| 50 | Lighting transformers                                                                                                                 | Yes | II  |
| 51 | String Hardware                                                                                                                       | Yes | IV  |
| 52 | Test Equipment                                                                                                                        | No  | I * |



*dy*

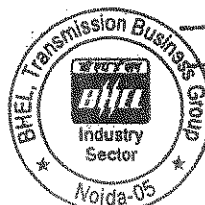
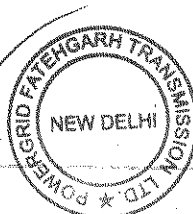
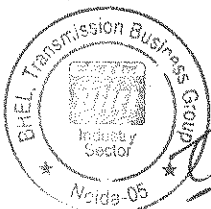


|    |                                                                                                   |     |       |
|----|---------------------------------------------------------------------------------------------------|-----|-------|
| 53 | GS Earthwire                                                                                      | Yes | IV    |
| 54 | Oil Storage Tank                                                                                  | Yes | III   |
| 55 | Insulating Oil                                                                                    | No  | III   |
| 56 | Flow sensitive conservator isolation valve                                                        | No  | II ** |
| 57 | On-Line insulating oil drying system                                                              | No  | II ** |
| 58 | On line DGA & Moisture Analyzer                                                                   | No  | II ** |
| 59 | WAMS-(PMU & Accessories)                                                                          | Yes | III   |
| 60 | FO Cable                                                                                          | Yes | III   |
| 61 | Re-rollers of MS/HT Angle Section and galvanized tower parts.                                     | Yes | IV    |
| 62 | Hardware fittings & Earthwire Accessories                                                         | Yes | IV    |
| 63 | OPGW & H/W                                                                                        | Yes | III   |
| 64 | Bolts & Nuts Gr up to 5.6/5                                                                       | Yes | II    |
| 65 | Bolts & Nuts of Gr 8.8 / 8                                                                        | Yes | IV    |
| 66 | D-shackle/ Hanger / Links                                                                         | Yes | IV    |
| 67 | Danger Plate /Phase Plate / Number Plate / Circuit plate                                          | No  | I     |
| 68 | Pipe Type & Counter Poise Earthing                                                                | No  | II    |
| 69 | Spring Washer                                                                                     | No  | II    |
| 70 | ACD & Barbed wire for ACD/Bird guard                                                              | No  | II    |
| 71 | Span Marker & Obstruction Light                                                                   | No  | III   |
| 72 | GIS including spares                                                                              | Yes | IV    |
| 73 | GIS Bus Duct                                                                                      | Yes | IV    |
| 74 | GIS Bushing                                                                                       | Yes | IV    |
| 75 | SF6 Gas processing Unit                                                                           | No  | II    |
| 76 | Partial Discharge Monitoring System                                                               | No  | II    |
| 77 | STATCOM including Valve, valve base electronics, DC capacitor, series reactor and all accessories | Yes | IV    |
| 78 | Mechanically switched Reactor bank (3-ph) including all accessories (MSR Branches)                | Yes | IV    |
| 80 | Mechanically switched Capacitor bank (3-ph) including all accessories (MSC Branches)              | Yes | IV    |
| 81 | Pass Harmonic filters                                                                             | Yes | IV    |
| 82 | Valve cooling system                                                                              | Yes | III   |



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|     |                                                        |     |         |
|-----|--------------------------------------------------------|-----|---------|
| 83  | FODP including pigtail                                 | No  | II      |
| 84  | Radio link Telecom                                     | Yes | III     |
| 85  | Hardware Fittings for Fibre Optic approach cable       | Yes | III     |
| 86  | SDH Equipments (ADM), PDH, Primary Multiplexer         | Yes | IV      |
| 87  | Drop & Insert Multiplexer                              | Yes | IV      |
| 88  | DACS                                                   | Yes | IV      |
| 89  | Main Distribution Frame                                | No  | I       |
| 90  | HDPE Pipe                                              | No  | II      |
| 91  | NMS, TMN                                               | Yes | IV      |
| 92  | Synchronization Equipment                              | No  | Level-I |
| 93  | HT Capacitor                                           | Yes | IV      |
| 94  | PLC Capacitor                                          | Yes | III     |
| 95  | 48V DCPS                                               | Yes | III     |
| 96  | Nitrogen Injection system                              | Yes | III     |
| 97  | Foundation Anchor bolts                                | Yes | III     |
| 98  | ECI Cable/Joint                                        | No  | II      |
| 99  | Optical Signal Column                                  | No  | II      |
| 100 | Maintenance Platform                                   | No  | II      |
| 101 | Spark Gap                                              | Yes | III     |
| 102 | Thyristor Valve                                        | Yes | III     |
| 103 | DC current & voltage measuring device                  | ITP | III     |
| 104 | Furniture                                              | No  | I       |
| 105 | Light Guide                                            | ITP | II      |
| 106 | Valve Arrestor                                         | ITP | III     |
| 107 | Water tubes for Octuple                                | No  | I       |
| 108 | DC Voltage Divider                                     | ITP | III     |
| 109 | Erection Hardware Items for HVDC                       | ITP | III     |
| 110 | Erection material for octuple                          | No  | II      |
| 111 | Reactor module for thyristor valves                    | ITP | IV      |
| 112 | DC Current transformer                                 | ITP | III     |
| 113 | Valve control unit/ Valve base electronics             | ITP | III     |
| 114 | Transient fault recorder                               | ITP | III     |
| 115 | VOIP gateway and telephone set (Analog and VOIP phone) | No  | I       |



Signature  
Date

|     |                                 |     |    |
|-----|---------------------------------|-----|----|
| 116 | Optical amplifier (same as SDH) | Yes | IV |
|-----|---------------------------------|-----|----|

Note:

- \* MICC for test and measuring equipment shall be issued only after actual verification/demonstration of satisfactory performance at site.
- \*\* Though level-2 items, CIP can be issued also on review of TCs and visual inspection of these items.

