

SECTION - 1

SCOPE, SPECIFIC TECHNICAL REQUIREMENTS & QUANTITIES

1.1.0 SCOPE

- 1.1.1 The scope of work under this specification is complete civil works of 400kV Substation Extensions at Agra in UP, Bhiwadi in Rajasthan & Moga in Punjab., being executed by BHEL on turnkey basis. The Customer is Powergrid Corporation of India Limited (PGCIL).
- 1.1.2 The Civil Works shall generally include, *but not limited to*, following, based on Customer supplied drawings:

AGRA

- (a) Foundations for lattice and pipe structures.
- (b) Foundations for bay marshalling box, panels & control cubicles of eqpts wherever required.
- (c) Cable trenches alongwith covers and sump pits.
- (d) Cable trench crossings with roads, rail tracks, culverts, etc.
- (e) Augmentation of drainage system in the substation in extension area.
- (f) Repair of roads, cable trenches & drains damaged during removal of gravel and construction works
- (g) Any other civil work required for completion of the project.

BHIWADI

- (a) Foundation of shunt/bus reactors alongwith associated SA & NGR alongwith foundation bolts, rail cum road track, jacking pads, pylon supports and fire resistant wall.
- (b) Foundations for lattice and pipe structures..
- (c) Foundations for bay marshalling boxes, bay control units, panels & control cubicles of eqpts.
- (d) Cable trenches alongwith covers and sump pits.
- (e) Cable trench crossings with roads, rail tracks, culverts, etc.
- (f) All roads (concrete).
- (g) Stone spreading and antiweed treatment of switchyard area (excluding PCC 1:5:10).
- (h) Augmentation of drainage system in the substation in extension area.
- (i) Repair of roads, cable trenches & drains damaged during removal of gravel and construction works.
- (j) Dismantling of road and fence.

- (k) Any other civil work required for completion of the project.

MOGA

- (a) Foundation of shunt/bus reactors alongwith associated SA & NGR alongwith foundation bolts, rail cum road track, jacking pads, pylon supports and fire resistant wall.
- (b) Foundations for lattice and pipe structures.
- (c) Foundations for bay marshalling boxes, bay control units, panels & control cubicles of eqpts.
- (d) Cable trenches alongwith covers and sump pits.
- (e) Cable trench crossings with roads, rail tracks, culverts, etc.
- (f) Roads (bituminous) inside substation fencing. The roads shall be black top/bituminous as per attached specification
- (g) Removal & respreading of already laid gravel after cleaning and washing and providing of extra matching gravel and antiweed treatment, if required. .
- (h) Repair of roads, cable trenches & drains damaged during removal of gravel and construction works..
- (i) Any other civil work required for completion of the project.

- 1.1.3 The works to be performed in the above constructions include preparation of bar bending schedules, based on the drawings released for construction and getting the same approved by the Engineer-in-charge plus the execution of the work including providing of all labour, supervision, materials, scaffolding, power, fuel, construction equipments, tools and plants, supplies, transportation, all incidental items necessary for successful completion of the work including contractor's supervision and in strict accordance with the drawings and specifications and with inspection and testing standards. The nature of work shall generally involve excavation in all type of soil including dewatering, shoring, strutting, and filling under and around structures, backfilling with available excavated earth around completed structures and cable trenches with covers, road crossing of trenches, disposal of surplus soil, concreting including reinforcement and formwork, providing necessary steel embedments and other inserts, stone spreading, antiweed treatment & PCC, etc., all complete as per detailed specification, drawings and directions of Engineer-in-charge.

1.2.0 SPECIFIC TECHNICAL REQUIREMENTS

- 1.2.1 All technical requirements for the execution of civil works shall be as per PGCIL Technical Specification & FQP.

1.3.0 BILL OF QUANTITIES

- 1.3.1 The Bill of Quantity shall be as per pages (Annexure I-III)

- 1.3.2 The quantities indicated in the 'Bill of Quantity' are indicative and can vary to any extent. Contractor shall not be entitled for any claim for any such variation in the quantities.
- 1.3.3 The provision of Bill of Quantity, specifications and drawings shall be read in conjunction with each other and in case of conflict amongst them, the clarification shall be obtained from the Engineer-in-Charge whose decision shall be final and binding.
- 1.3.4 The mode of measurement shall be as per Clause 11 of PGCIL Technical Specification.