



SCOPE OF WORK

The scope of work includes entire 400 kV transmission system for evacuation of power from SKS Power Generation (Chhattisgarh) Ltd. to upcoming pooling station of PGCIL at Bansia located near Kotra substation to be implemented on a LSTK (Lump Sum Turn Key) basis along with the responsibility to obtain Right of Way for the Land Corridor and way leave Clearances for the 400 kV Double circuit Transmission lines – 25 km (approx).

Scope of Supply

The scopes of supply are as follows:

- Design, engineering, manufacture, assembly and testing at works, packing/dispatch, transportation to site, transit insurance, delivery, erection, testing, commissioning: (last 5 km towards Bansia to be done as per instructions of PGCIL)
- Detail Survey including route alignment, profiling, tower spotting, optimization of tower location
- Soil resistivity measurement, meteorological and total Geotechnical Investigations
- Clearing right of way
- Design, fabrication and supply of all types of 400 kV Double circuit transmission towers along with fasteners, anchors, D-Shackles, etc
- Supply of all types of tower accessories like phase plate, circuit plate, Danger plate, anti-climbing device, bird guard, Template mentioning type of tower, rated voltage and other details etc
- Supply of Conductor and Ground wire, Insulator assembly, line Assemblies, Hardware fittings.
- Preliminary works
- Foundation (all type of foundations) for different type of towers and casting of foundation for tower footings.
- Erection of towers along with tower accessories, Tack welding of bolts and cuts including supply and application of Zinc rich primer and two coats of enamel paint tower earthing, fixing of insulator strings, and stringing of conductors and earth wires along with all necessary line accessories.
- Supply and erection of Span markers, obstruction lights for aviation requirements (as required)
- Clean up.

(All safety and security precautions to be observed)

The scope of work of the contractor shall also include the following:

- Acquiring Right of Way (land required for installation of transmission line or tower)
 - Clearing Right of Way
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Information provided with this tender package is tentative, bidder shall have an option to do advance survey and produce detailed bill of quantities as per his survey reports. Addition /deletion of quantities shall not have any price implication after finalization of contract.

The scope of work will also include such other related works although they may not be specifically mentioned in the above and all such incidental items not specified but reasonably implied and necessary for completion of the works as a whole as desired and as directed by the Purchaser/Owner.

Scope of work shall also include Line erection Installation, Testing and commissioning of EHV transmission line. Bidder shall be responsible to perform the centre line and side slope survey and to re-profile the line to provide the most economic solution and to suit the range of poles being supplied.

Towers, conductors, insulation and earth wire shall be installed as per the manufacturer's instructions and this specification.

All Salutatory requirements shall be taken care by the contractor.

Civil scope shall include Clearing of right of way and Danger trees, testing of soil, excavation, setting of stubs, mixing, placing, compacting of concrete and reinforcement, backfilling and removal of stub template, curing, Benching, protection of tower footing, earthing, clearing of site etc. required for the completion of work.

The modality of approval of technical documentation and priority of supply shall be mutually discussed and agreed upon with the successful bidder in the kick-off meeting after the placement of LOI.

The bidder shall indicate the unit price for each items as per the specification .Based on project requirements, the quantities required shall be informed by the bidders before the final price bids are called for from the bidders, and shall be known as Ordered Quantities. Addition / Deletion of quantities shall be applicable at the quoted unit price. The variation in quantities of all sizes put together shall be limited to $\pm 30\%$ (Details to be mutually discussed and agreed) of the total contract value derived on the basis of Ordered Quantities.

Scope also includes the requirements/items described in the subsequent section of this specification.

Co-ordination with power plant switchyard contractor, PGCIL sub-station contractor, operation and maintenance personal of power plant and PGCIL during erection, testing, commissioning till successful 400 kV transmission line charging along with back feed.

The inspection can be carried out by any third party or PGCIL or any Govt. Authority/ statutory authority accordingly submit the required drawing /document in compliance with any schedule in respective formats/forms and necessary compliance of all points raised should be completed within the scheduled time.

Any items / equipments/coordination not mentioned in the specification but required for supply, laying, erecting, testing and successful operation of the transmission line shall be included in the Bidder's scope.

All proprietary remain with SPGCL.

Connecting 400 kV transmission line to the power plant switchyard and PGCIL Sub-station

Construction power and Construction water.

Storage of material/equipments/items.



Scope of Services

- Preparation and submission of drawings & documents in soft and hard form as per the drawings / documents submission schedule.
- Submission of progress report.
- Participation in project review / Technical Coordination meetings

Consumables

As per Actual requirement.

Spares

Bidder shall recommend the detailed list of spares required for O & M.

TERMINAL POINTS

The line shall emanate from gantry of 400 kV switchyard at power plant to the gantry of 400 kV Switchyard at upcoming pooling station of PGCIL at Bansia located near Kotra sub-station.

EXCLUSIONS

- Protection for transmission line is under the scope of other EPC/PGCIL contractor.

TRANSMISSION LINE ROUTE:

Preliminary Survey details are attached with this specification (refer annexure C). Bidders are advised to visit the area and acquaint themselves with topography, infrastructure, etc.

Bidder shall carryout detailed survey using GPS along the approved route. As an alternative contractor may also use ALTM (Air- Borne laser Terrain Modeling) techniques of equal or better accuracy for the detailed survey.

Proposed transmission line shall not cross any EHV transmission line under the radius of 2 km from the PGCIL substation. In this connection Bidder shall check with PGCIL that proposed route doesn't overlap with any of the proposed other IPPs transmission line, which are planned in the Chhattisgarh state.

Following Clearances are already obtained by Owner and its enclosed with this specification for your reference:

- a) Clearances from ministry of power under section 68 and section 164 of Electricity Act 2003, which is a mandatory requirement for execution of new transmission,

Bidder shall obtain following clearances and permission for outages as required as part of the proposed transmission line.

- a) Railway, NH, SH, other roads and Canal /nalla crossing clearances.
 - b) Environmental Clearances.
 - c) Existing telecommunication and electrical HV/EHV line clearances in the finalized Transmission line.
 - d) Forest clearances to be obtained if transmission line passes through the forest.
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Clearances may also to be obtained by the bidder from the following authorities but not limited to:

- a) Chief Electrical Inspectorate
- b) CEA, Mumbai, Department of Inspection

- c) Power Tele-communication coordination committee (PTCC).

All other necessary approvals required.

Geological and meteorological data along the transmission line shall be ascertained by the bidders before starting engineering.
