



SCOPE OF WORK

The scope includes the following:

1. Design, engineering, manufacturing, supply, packing and forwarding, transportation, unloading storage, installation, testing and commissioning of Solar Photovoltaic plant **excluding Supply of Solar PV modules (PV Modules shall be supplied by NTPC REL as Free Issue item).**
2. Receipt, unloading at site, storage, installation, testing and commissioning of Solar PV Modules.
3. Site - Grading & Clearing of Vegetation (if required), Topographical survey (Optional), Geotechnical Investigation (Optional).
4. Design and Construction of foundation & erection of Module Mounting Structure (MMS) with **Tracker based Technology** for SPV panels at a DC:AC ratio of 1.30, including fixing of PV Modules on Tracker and PV Modules interconnection. However, Design/Engineering, procurement, and installation of Electrical DC systems up to inverter shall be done considering DC:AC ratio of 1.35.
5. Arranging power supply and water supply for construction purposes.
6. Construction of Pre-Engineered type Inverter room (if applicable) with Power conditioning unit associated LT and HT switchgear. In case of String Inverter, Construction of Pre-Engineered type HT Switchgear room.
7. All associated electrical and civil works required for interfacing with grid (i.e. transformers, panels, protection system, cables, metering at 33kV level, facilitation for grid compliance study as per regulation etc. etc.), evacuation of power to **33kV Switchgear of 33/400kV GIS Substation provided by Owner through 33kV cable and placement of SCADA, PPC panel and associated equipment at identified location in Main Control Room of 33/400kV GIS Substation.**
8. Laying and termination of HT Cables (including supply) as per specification.
9. Design, supply, and installation of Module cleaning system (Robotic Dry-Cleaning Method) including supply and installation of all accessories. Robotic Dry-Cleaning System would be acceptable where in 25 Years Design life need to be certified by the Bidder for C4 Category Corrosion Environment.
10. Construction of internal roads, pathways, construction of Drainage system as per General Layout and Topography, any internal / temporary fencing (**except project boundary fencing**), security cabin etc.
11. Construction of main road along the periphery of all four blocks (Approx length: 19.26 KM) as per the section detailed in the tender drawings.
12. SCADA system for remote monitoring and control of Inverters with all hardware & software and complete set of Weather Monitoring Station including cloud cover as per specification



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SCADA, and associated equipment shall be installed at identified location in Main Control Room of owner's 33/400kV GIS Substation

13. *Design, supply, installation, testing and commissioning of Dynamic reactive power compensation equipment and all equipment for power quality control like Harmonic filter, flicker compensators etc. to comply with the requirements at POI to 400KV Khavda ISTS Substation as per grid connectivity regulations and as per the "Report of the Working Group in respect of Data Submission Procedure and Verification of Compliance to CEA Regulations on Technical Standards for Connectivity to the Grid by RE Generators July 2022". Grid Compliance study shall be done by owner as per the inputs from the bidder.*
14. *Comprehensive Operation & maintenance of SPV Plant along with electrical equipment, consumables and spare parts for a period of Three years from the date of commissioning of full Project capacity.*
15. *Supply of Mandatory spares.*