



SALIENT TECHNICAL FEATURES

“Salient Technical Features of the systems /equipment/ services are mentioned below. These Salient Technical Features are mentioned only to facilitate the prospective bidders to prima-facie understand the requirements under the tender and shall not in any way limit or alter the scope of work and technical features/specification of equipment/ systems/ services covered in the Bidding Documents. Detailed provisions in regard of scope of work and technical features/specification of equipment/ systems/ services, contained in the Bidding Document shall be final and binding.”

Salient technical features of the proposed project are as follows:

Name of the Package	Balance of System package for development of 1400MW Grid Connected Solar PV Projects in Lalitpur (2 X 300 MW) and Chitrakoot (2 X 400 MW) in Uttar Pradesh								
Type of Project	Ground Mounted (Fixed Tilt) Solar PV Projects								
Capacity to single bidder	<p>Bidder can opt for Project capacity as below:</p> <table border="1"> <tr> <td>One Block of 300 MW</td> </tr> <tr> <td>One Block of 400 MW</td> </tr> <tr> <td>Any two Blocks of Cumulative capacity 600 MW i.e. 300 MW+300 MW (600 MW)</td> </tr> <tr> <td>Any two Blocks of Cumulative capacity 700 MW i.e. 300 MW+400 MW</td> </tr> <tr> <td>Any two Blocks of Cumulative capacity 800 MW i.e. 400 MW+400 MW</td> </tr> <tr> <td>Any Three Blocks of Cumulative capacity 1000 MW i.e. 300 MW+300 MW+ 400 MW</td> </tr> <tr> <td>Any Three Blocks of Cumulative capacity 1100 MW i.e. 300 MW+400 MW+ 400 MW</td> </tr> <tr> <td>Whole capacity of 1400 MW i.e. 300MW+300 MW+400 MW+ 400 MW</td> </tr> </table>	One Block of 300 MW	One Block of 400 MW	Any two Blocks of Cumulative capacity 600 MW i.e. 300 MW+300 MW (600 MW)	Any two Blocks of Cumulative capacity 700 MW i.e. 300 MW+400 MW	Any two Blocks of Cumulative capacity 800 MW i.e. 400 MW+400 MW	Any Three Blocks of Cumulative capacity 1000 MW i.e. 300 MW+300 MW+ 400 MW	Any Three Blocks of Cumulative capacity 1100 MW i.e. 300 MW+400 MW+ 400 MW	Whole capacity of 1400 MW i.e. 300MW+300 MW+400 MW+ 400 MW
One Block of 300 MW									
One Block of 400 MW									
Any two Blocks of Cumulative capacity 600 MW i.e. 300 MW+300 MW (600 MW)									
Any two Blocks of Cumulative capacity 700 MW i.e. 300 MW+400 MW									
Any two Blocks of Cumulative capacity 800 MW i.e. 400 MW+400 MW									
Any Three Blocks of Cumulative capacity 1000 MW i.e. 300 MW+300 MW+ 400 MW									
Any Three Blocks of Cumulative capacity 1100 MW i.e. 300 MW+400 MW+ 400 MW									
Whole capacity of 1400 MW i.e. 300MW+300 MW+400 MW+ 400 MW									
Location	Lalitpur & Chitrakoot Solar Parks of TUSCO, Uttar Pradesh								

Brief Scope of Work for Balance of System (BOS) Package of 1400 MW Grid Connected Solar PV Projects at Lalitpur & Chitrakoot UMREPP, Uttar Pradesh.

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.



NTPC Renewable Energy Limited

(A wholly Owned Subsidiary of NTPC Limited)

Corporate Centre

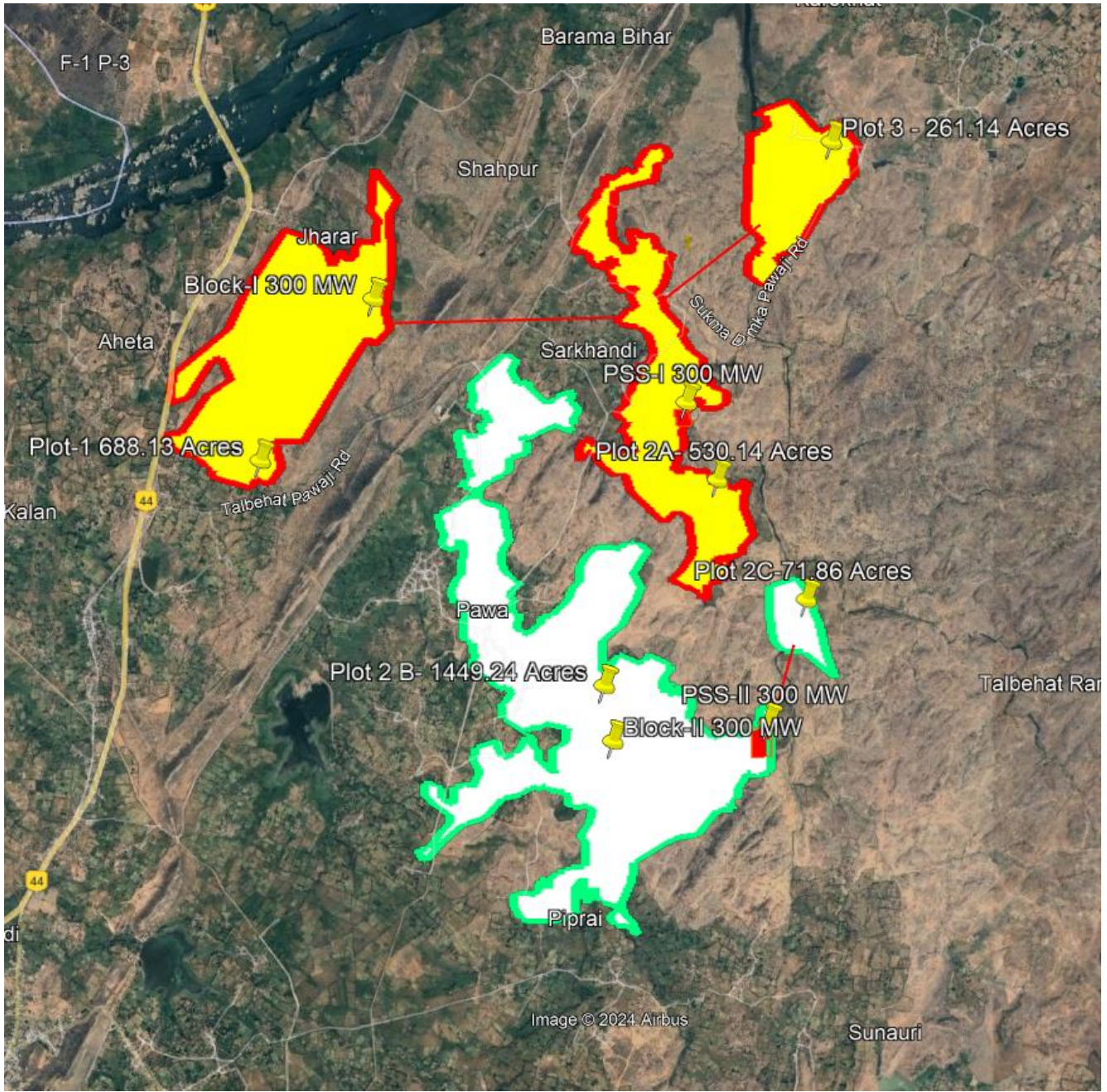
3. Site - Grading & Clearing of Vegetation (if required), Topographical survey, Geotechnical Investigation.
4. Design and Construction of foundation & erection of Fixed Tilt Module Mounting Structure (MMS) for SPV panels at a DC:AC ratio of 1.45, including fixing of PV Modules and PV Modules interconnection.
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. Construction of Central Control Station Building having SCADA room, Storeroom, Battery room, associated switchgear etc. with all electrical fitting and furniture, etc.
8. 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.), evacuation of power to 33kV Switchgear of Substation provided by Owner through 33kV cable and placement of SCADA, PPC panel and associated equipment at identified location in Main Control Room.
9. Laying and termination of HT Cables (including supply) as per specification.
10. 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 C3 Category Corrosion Environment.
11. 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.
12. Construction of main road along the periphery as per the section detailed in the tender drawings.
13. 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 SCADA, and associated equipment shall be installed at identified location in Main Control Room of owner's Substation.
14. Design, supply, installation, testing and commissioning of Dynamic reactive power compensation equipment (20%) and all equipment for power quality control like Harmonic filter, flicker compensators etc. to comply with the requirements at POI, 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.
15. 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.
16. Supply of Mandatory spares.



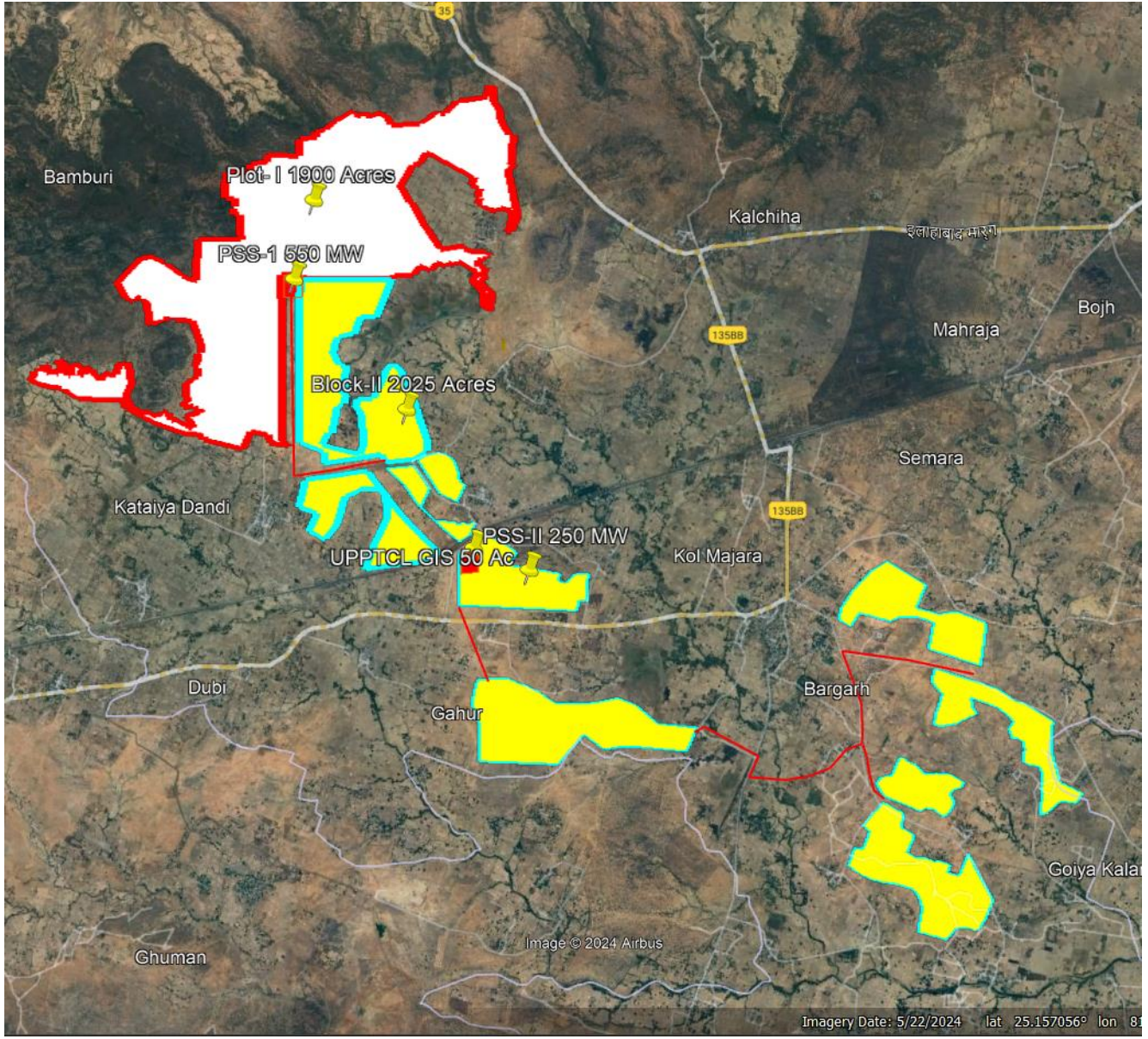
Block wise variable parameters.

Locations	Lalitpur	
	1	2
Blocks		
Capacity	300 MW	300 MW
ITEMS		
Generation	2.4205 MU/MW	2.4205 MU/MW
DC:AC Ratio	1.45	1.45
Fencing	Under Park Scope	Under Park Scope
Area	~1479.41 Acres	~1500 Acres
Excess HT Cable/ Line (33 KV)	~3.33 KMS	~1 Kms
Roads (3.75 mt)	~3.33 KMS	~1 Km
Porta Cabins for Security Personnel & Manpower at Site	3 No.	2 No.

Locations	Chitrakoot	
	1	2
Blocks		
Capacity	400 MW	400 MW
ITEMS		
Generation	2.3452 MU/MW	2.3452 MU/MW
DC:AC Ratio	1.45	1.45
Fencing	Under Park Scope	Under Park Scope
Area	~1900.00 Acres	~1995 Acres
Excess HT Cable/ Line (33 KV)	Not required PSS Adjacent to Boundary	~10.09 Kms
Roads (3.75 mt)	~2.83 KMS	~10.09 Kms
Porta Cabins for Security Personnel & Manpower at Site	2 No.	4 No.



Lalitput 600 MW (2 x 300 MW)



Chitrakoot 800 MW (2x 400 MW)