

ABRIDGED INVITATION FOR BIDS

NTPC GREEN ENERGY LIMITED
(A SUBSIDIARY OF NTPC LIMITED)

CONTRACTS SERVICES

INVITATION FOR BIDS (IFB)

FOR

**EPC PACKAGE FOR DEVELOPMENT OF 100MW SOLAR WITH 50MW/ 200MWH
BESS PROJECT AT JHANSI, U.P**

(DOMESTIC COMPETITIVE BIDDING)

IFB No.: NGEL-CS-5840-004(EPC)-9

Date: 21.03.2026

NTPC GREEN ENERGY LIMITED (NGEL) invites online bids on behalf of **NTPC UP Green Energy Limited (NUGEL)** from eligible bidders on Single Stage Two Envelope (i.e. Envelope-I: Techno-Commercial Bid and Envelope-II: Price Bid) followed by Reverse Auction for **“EPC PACKAGE FOR DEVELOPMENT OF 100MW SOLAR WITH 50MW/ 200MWH BESS PROJECT AT JHANSI, U.P”**

For the detailed IFB and bidding documents please visit at <https://www.bharat-electronictender.com> or <https://ntpctender.ntpc.co.in> or www.ntpc.co.in or may contact :
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NTPC Green Energy Limited,
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Document Sale Start Date and Time :03.04.2026, 17:00 hrs
Document Sale Closing Date and Time : 17.04.2026, upto 17:00 hrs
Bid Submission End Date and Time : 04.05.2026 upto 15:00 hrs
Bid Opening Date and Time : 04.05.2026 at 15:30 hrs

Registered Office:
NTPC Green Energy Limited
NTPC Bhawan, SCOPE Complex,
7, Institutional Area, Lodhi Road, New Delhi-110003,
Corporate Identification Number (NGEL): **L40100DL2022GOI396282**,
Website: www.ngel.in

Brief Scope of Work

A) Solar Project

Design, engineering, manufacturing, supply, packing and forwarding, transportation, unloading, storage, installation, testing and commissioning of 100MW Ground Mounted Solar PV Plant (including Supply of Modules) with *50MW/ 200MWh BESS* at Jhansi, U.P

The scope includes the following:

1. Site – Levelling/Grading & Clearing of Vegetation, Topographical Survey, Geotechnical Investigation.
2. Design and Construction of foundation & erection of Module Mounting Structure (MMS) for SPV panels, including fixing of PV Modules on MMS and PV Modules interconnection. Bidders are to provide fixed tilt tracker system only and the bidding is MU based.
3. Arranging power supply and water supply for construction purposes.
4. 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.
5. Construction of EHV switchyard (including power transformers) along with CMCS building and associated control, protection, communication, automation and other auxiliary systems.
6. All associated electrical and civil works required for interfacing with grid (i.e. transformers, panels, protection system, cables, metering at 33kV level, grid compliance study as per regulation etc.), evacuation of power to **33/220kV switchyard** as per detailed technical Specifications and applicable technical standards.
7. Supply, Laying and termination of HT Cables within and between different blocks and interconnection to **33/220kV switchyard** as per specification.
8. Performance testing for demonstration of Guaranteed Generation at metering/interconnection point.
9. Module cleaning system including supply and installation of all accessories.
10. Construction of internal roads, pathways, construction of Drainage system, periphery boundary wall as per General Layout and Topography, any internal / temporary fencing, security cabin etc.
11. SCADA system for remote monitoring and control of Inverters with all hardware & software, Power plant controllers, and complete set of Weather Monitoring Station including cloud cover.
12. Dynamic reactive power compensation equipment and Harmonic filters to comply with the requirements of dynamic reactive power capability at Grid POI 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” and its clarification(s)/amendment(s) thereof if any.

13.

CCTVs along with remote monitoring system with coverage of CMCS building, 100% periphery, entry/exit gates of the solar blocks, WMS inverter stations, etc.

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.

B) BESS Project

The scope of work covers the following activities and services in respect of all the equipment & works specified for BESS portion and covered under the specifications and read in conjunction with “Scope of Supply & services” specified in Technical Specifications

This Scope of Work (SOW) outlines the broad requirements pertaining to the Battery Energy Storage System (BESS) portion of the complete EPC package for the Solar + BESS Project. All project deliverables, as specified at the Point of Interconnection (POI) to the UPPTCL grid, shall be met in full. The Contractor shall be responsible for the detailed design, sizing, supply, installation, integration, testing, and commissioning of the BESS so as to achieve the project-level guaranteed parameters. The SOW defined herein for the BESS portion is indicative and shall be construed to encompass all activities, systems, and services necessary to meet the overall project requirements and performance guarantees.

- 1) Design, Engineering, Supply, Packing and Forwarding, Transportation, Unloading, Storage, Installation and Commissioning of grid connected Battery Energy Storage System (**BESS**) on turnkey basis.
- 2) Unloading at respective site, Supervision of Erection, Testing, Commissioning, Integration of above equipment with Solar plant Infra to commission a complete BESS system integrated with Solar plant and grid shall be included in scope of bidder.
- 3) **Design life of BESS system including that of battery shall be of 25 years (with degraded capacity as per bidder’s proposal considering daily single cycle operation) from the date of commissioning.**
- 4) Batteries offered shall be rated for **minimum 10,000 cycles of operation.**
- 5) The BESS Supplier shall take into consideration following loss parameters beyond the termination point and up to POI while sizing the nameplate capacity of the BESS:

Head	Loss to be considered in sizing
Power Trafo Losses	As per actual
Transmission Line Losses	0.25%

- 6) **Bidder will guarantee minimum 92 % of dispatchable capacity at POI across all 15 years starting with 100 % of rated dispatchable capacity (as mentioned above) at CoD and 95 % for first year. Dispatchable capacity at the time of handover shall be minimum 92%.**
- 7) **Any augmentation required for meeting above criteria shall be included in scope of bidder.**

Minimum nameplate rated installed capacity of BESS shall be:

	Deliverable capacity*	Min Nameplate capacity
Block 1	200 MWh	220 MWh

- 100% of Dispatchable Capacity.

- 8) **Comprehensive O&M including associated warranty, annual maintenance contract (Service Level Agreement) and Insurance of BESS for period of 15 years shall be included in scope of bidder.**
- 9) Minimum monthly Round Trip Efficiency (RTE) shall be 80% including auxiliary consumption (Measured at BESS Termination point at 33 KV)
- 10) Monthly availability to be maintained is 98%. Detailed Availability requirements and other details will be mentioned in detailed specifications.
- 11) BESS capacity offered shall be suitable for meeting deliverable capacity at POI including reactive power compensation.
- 12) Grid compliance study to be carried out for complete Solar + BESS system by bidder. Grid compliance study. If required, for each augmentation shall be in scope of bidder.
- 13) Reactive power compensations and power quality compliance for entire Solar + BESS system upto 220 KV grid interconnection point at UPPTCL switchyard is included in scope of bidder.
- 14) Aux supply system for the BESS Plant from 33 kV termination point shall be in the scope of Bidder The aux supply required for Battery Container at site up to final commissioning shall be also in the scope of Bidder. Bidder to ensure the delivery of items at site and other works related to BESS plant accordingly.
- 15) During operation of the BESS Plant, in case of grid failure, emergency supply requirement for BESS Plant shall be in the scope of Bidder.
- 16) DSM Charges applicable corresponding to the metering and scheduling of BESS Plant and attributable to Bidder shall be paid by bidder, during the Contract duration.
- 17) Bidder shall carry out Engineering to execution works of civil, erection, installation, and commissioning works of all the supplied equipment and equipment system(s).
- 18) Bidder shall provide engineering drawings, data, process calculations, test procedures, Equipment layout, Drawings/Data sheets of bought out items, Performance & Guarantee Test procedure etc for review and approval of NTPC Green Energy Limited.

- 19) Provide documentation for design and expected performance through design calculations, software, design drawings, equipment drawings, and modifications to the existing drawings.
- 20) Complete manufacturing including conducting all type, routine and acceptance tests, Pre-assembly, (if any), testing, pre-commissioning, and commissioning and putting into satisfactory operation all the equipment including successful completion of initial operation.
- 21) Scope shall include EMS configuration to operate BESS at various modes as per Grid requirement mentioned in specification and integrated operation with Solar plant and Plant Scheduling as per Grid/RLDC requirement during O&M. Bidder is required to provide Hybrid EMS which shall control the generation of Solar Plant as well BESS Plant and shall be properly integrated with Solar Plant.