

UPPCL to set up battery energy storage systems

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LUCKNOW: The Uttar Pradesh Power Corporation Ltd (UPPCL) is advancing its energy infrastructure by introducing large-scale battery energy storage systems (BESS) to enhance the management of renewable power.

The corporation, according to people in the know of things, has invited bids to select developers for setting up 1200 MW of storage capacity, divided into four 300 MW battery energy storage systems at designated load centres.

This initiative will utilise a build, own, operate, and transfer (BOOT) model. Battery energy storage systems are designed to store energy from renewable sources such as solar and wind and release it as needed to balance supply and demand.

Currently, lithium-ion batteries, commonly used in mobile phones and electric vehicles, are the leading technology for these large-scale storage solutions. Otherwise, electricity generated at plants cannot be stored for later use and must be consumed as and when generated.

According to the UPPCL bid document, "The UPPCL has decided to utilise energy storage systems on 'On-Demand' basis, suited to its requirements during the peak and off-peak hours."

The document further specifies, "UPPCL hereby wishes to invite proposals for setting up of Standalone Battery Energy Storage System (BESS), for a storage



Large-scale battery energy storage systems are designed to store energy from renewable sources FOR REPRESENTATION ONLY

capacity of 1200 MWh (300 MW x 4 hrs)."

The selected developers will enter into a Battery Energy Storage Purchase Agreement(s) (BESPA(s)) with UPPCL. The bid document notes that renewable energy (RE) has become the most affordable and efficient source for meeting energy needs, though integrating increasing RE capacity with existing infrastructure remains a challenge.

It highlights, "The above aspects rightly point out to the next course of direction of India's energy planning methodology—integrating Energy Storage Systems (ESS) with existing and upcoming RE capacity in order to optimize generation mix while also better utilising the transmission infrastructure in the country."

A recent study by the Central Electricity Authority of India (CEA) projects a battery energy storage capacity of 8680 MW/34720 MWh (4-hour stor-

age) as part of the installed capacity for 2022-27, in addition to 7446 MW of pumped hydro storage.

UPPCL is also developing pumped hydro storage projects in the Vindhyaachal region. A senior UPPCL official commented, "Energy storage systems also have the potential to enable better utilisation of the country/state's transmission network and reduce the network infrastructure footprint."

Under the UPNEDA Solar Policy 2022, a capital state subsidy of Rs 2.50 crore per megawatt will be provided for utility-scale solar projects equipped with a 4-hour battery storage system of 5 megawatts or more, as well as standalone battery storage systems energized by solar energy for sale to distribution licensees/UPPCL.

"The battery energy storage systems are proposed to be commissioned within 18 months of awarding the contract to a developer," the official added.