

THE MINISTRY OF POWER IS INVITING COMMENTS AND IN DRAFT OF TARIFF BASED COMPETITIVE BIDDING GUIDELINES FOR PROCUREMENT OF STORAGE CAPACITY/STORED ENERGY FROM PUMPED STORAGE PLANTS



While announcing the 2024-25 Budget on 23rd July 2023, the Hon'ble Finance Minister announced that new measures and policies will be brought out for promoting pumped storage power project – which is a hydro-electricity power plant model. The National Electricity Plan 2023 also foresees a need for approximately 74 GW or 411 GWh of Electricity Storage System – 27 GW or 175 GWh of it is envisioned to be procured from Pumped Storage Plants and about 47GW/236 GWh from Battery Energy Storage Systems.

The Pumped Storage Plant consists of an upper reservoir which is used to store water during low demand periods. During peak energy periods, the upper reservoir water flows through a turbine to generate electricity.

The National Framework for Promotion of Energy Storage Systems (ESS) issued by the Ministry of Power in August 2023 was formulated considering that the incorporation of Renewable Energy in the country's energy generation capacity building would come with a significant amount of variable and intermittent loads being generated to be injected into the grid. This framework also recognised the potential of using Pumped Storage Projects to enhance energy security of the country.

The Government, in line with its promises in the budget, the Electricity Plan 2023 and the National Framework for Promotion of Energy Storage Systems (ESS) – has considered the distinct requirements in aspects such as land acquisition, permits, clearances, project timelines and performance and published the Draft guidelines for Tariff Based Competitive Bidding (TPCB) for the procurement of storage capacity from pumped storage plants (PSPs) on 22nd August 2024.

The Ministry of Power is currently inviting comments and suggestions from Stakeholders in the Renewable Energy Power Sector, till 6th September 2024.

KEY HIGHLIGHTS

The Draft Guidelines Propose 2 Modes of Procurement for the development of the PFPs. The modes of procurement are as discussed below:

1. Build-Own-Operate-Transfer Model (BOOT Model)
 - This model is listed as mode 1 in Section B, Clause 3(a) titled “Procurement from a PSP developed on a site identified by the procurer”
 - This mode applies to PSPs located on sites identified by the government and the concession period under this model can be 25 to 40 years.
 - This approach ensures long-term engagement, offering stability for both developers and the government.
2. Finance-Own-Operate Model (FOO Model)
 - This mode is listed as mode 2 in Section B, Clause 3(b) titled “Procurement from a PSP developed on a site identified by the Bidder or already commissioned”
 - This mode is designed for PSPs on sites identified by bidders or for existing projects. The concession period for this mode ranges from 15 to 25 years.
 - This offers more flexibility for private developers, allowing them to leverage existing resources and infrastructure.

Detailed Project Report (DPR) Requirements

One of the critical components of the bidding process is the preparation of a Detailed Project Report (DPR). The guidelines mandate that the DPR should include exhaustive details on the project’s technical and financial aspects, including hydrological studies, geological investigations, environmental and social impact assessments, and detailed design and cost estimates. The DPR will serve as a foundational document that determines the viability and competitiveness of the bid.

Eligibility Criteria and Performance Guarantees

The draft guidelines lay out stringent eligibility criteria for bidders, focusing on both financial and technical capabilities. Bidders must demonstrate a proven track record in the development, financing, and operation of large-scale infrastructure projects, particularly in the energy sector. Bidders are required to meet specific net worth and turnover thresholds, ensuring that only financially robust entities participate in the bidding process and must showcase their expertise in PSP or similar projects, including past project experience and technical qualifications.

Evaluation Process

The evaluation of bids will be conducted based on a transparent and competitive process. The guidelines specify a two-stage bidding process – a qualification round and a bid evaluation.

Significance for the Energy Sector

These draft guidelines represent a significant step forward in the government’s efforts to enhance the role of PSPs in India’s energy mix. PSPs are a vital component of the country’s strategy to integrate renewable energy sources, such as solar and wind, which are inherently variable and intermittent. By providing a reliable method of energy storage, PSPs help to stabilize the grid and ensure a consistent power supply during peak demand periods.

The clear and structured approach outlined in the draft guidelines is expected to attract both domestic and international investors, fostering competition and innovation in the sector. Moreover, the long concession periods and robust eligibility criteria are designed to ensure that only serious and capable developers participate in these projects, thereby reducing the risk of delays and enhancing the overall quality of the PSPs developed under this framework.

Our Managing Partner's (Shri Venkatesh) Insights

The Ministry of Power's draft guidelines for tariff-based competitive bidding for Pumped Storage Projects (PSPs) mark a significant step towards realizing India's energy transition goals. As highlighted in the National Framework for Promoting Energy Storage Systems (ESS) issued by the Ministry earlier, PSPs, particularly with the increasing integration of variable renewable energy sources – could be pivotal in ensuring grid stability and energy security,

The draft guidelines align with the Framework's vision by emphasizing the need for transparent criteria in awarding PSP sites and removing barriers to project allotment. This approach is essential for expediting the development of PSPs, which are recognized as clean, sustainable, and domestically viable solutions.

The National Framework also underscores the critical role of PSPs in providing ancillary services, enabling peak load management, and supporting renewable energy's round-the-clock dispatchability. The Ministry's focus on promoting PSPs, alongside Battery Energy Storage Systems (BESS), is crucial for meeting the projected storage capacity requirements outlined by the Central Electricity Authority. By 2029-30, the need for PSP capacity alone is expected to reach 18.98 GW.

This initiative by the Ministry of Power is not just about infrastructure development; it is about setting the foundation for a resilient and sustainable energy future for India.

All Stakeholders are advised to submit their comments, concerns and inputs to the Ministry of Power at nre.section-mop@gov.in

The Draft Tariff-based Competitive Bidding Guidelines for Procurement of Storage Capacity / Stored Energy from Pumped Storage Plants as was published by the Ministry of Power via Notification No. 42-2/1/2022-RCM-Part(3) dated 22.08.2024 can be accessed [here](#).

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