एनटीपीसी NTPC
A Maharatna Company

एन टी पी सी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited
(A Govt. of India Enterprise)

केन्द्रीय कार्यालय / Corporate Centre

Date: 12.11.2026

The Secretary
Central Electricity Regulatory Commission,
6th, 7th & 8th Floor, Tower B,
World Trade Centre,
Nauroji Nagar,
New Delhi-110029

Subject: NTPC Submissions on Suo-Motu Order 13/SM/2026

Sir,

The Hon'ble Commission has published Suo-Motu Order 13/SM/2026 in the matter of inclusion of the Pumped Storage Plants (PSPs) in the eligibility list for participation in the High Price Day Ahead Market (HPDAM) and has sought submissions from stakeholders.

In this regard, please find enclosed submissions of NTPC.

Thanking you,

Yours sincerely

Ajay Dua
ED (Commercial)

अभियांत्रिकी कार्यालय परिसर, प्लॉट नं0 ए–8ए, सैक्टर–24, पोस्ट बाक्स नं0 13, नोएडा–201301 (उ.प्र.)
ENGINEERING OFFICE COMPLEX, Plot No. A-8A, Sector-24, Post Box No. 13, NOIDA-201301 (U.P.)
दूरभाष / Tel.: 0120-4948000, 0120-2410333, 0120-2410801 फैक्स / Fax : 0120-2410136, 0120-2410137
पंजीकृत कार्यालय : एन.टी.पी.सी. भवन, स्कोप काम्पलैक्स, 7, इंस्टीटयूशनल एरिया, लोधी रोड़, नई दिल्ली–110003
Regd. Office : NTPC Bhawan, Scope Complex, 7, Institutional Area, Lodhi Road, New Delhi-110003
दूरभाष/Tel.: 011-24387333 फैक्स / Fax : 011-24361018 • CIN : L40101DL1975GO1007966 • Email : ntpccc@ntpc.co.in

Submission of NTPC pursuant to Hon'ble CERC Suo Moto order 13/SM/2026

The Hon'ble Commission by Orders dated 16.02.2023, 11.04.2023 and 24.07.2023 has permitted the Power Exchanges to introduce HP-DAM with the following categories of generating stations to participate in the HP-DAM Segment:

(i) Gas-based generating stations using imported RLNG and Naphtha

(ii) Imported coal-based generating stations using only imported coal

(iii) Battery Energy Storage Systems (BESS).

Further, inclusion of Pumped Storage Plants (PSPs) as an eligible category of generating station is presently under the consideration in the present proceedings.

Submission:

It is respectfully submitted that, besides BESS and PSPs, several other Long Duration Energy Storage (LDES) technologies are emerging as critical enablers of large-scale RE integration. These technologies are expected to play a significant role in enhancing grid reliability and flexibility, while strengthening national energy security through reduced dependence on imported critical minerals.

Recognizing their strategic importance, NTPC is presently developing LDES technologies such as the CO_2-based Closed Brayton Cycle Energy Storage System (ESS) and Vanadium Redox Flow Batteries, both of which are at advanced stages of implementation.

These technologies offer several inherent advantages, including long asset life, minimal performance degradation, enhanced operational safety and reduced reliance on critical minerals, thereby contributing to greater sustainability and supply-chain resilience. Further, they can provide 6-10 hours of dispatchable storage, facilitate RE integration and can be deployed without the geographical constraints typically associated with certain storage technologies. However, as these technologies are still in the early stages of commercial deployment, the estimated levelized fixed cost of storage is presently in the range of Rs 8-12/kWh, with the effective delivered tariff being further influenced by the cost of charging power.

Given the relatively high fixed cost associated with such emerging storage solutions, the revenue opportunity available through participation in the conventional DAM segment alone may not be adequate to ensure their commercial viability.

In this regard, enabling participation of LDES technologies in the HP-DAM segment would allow them to access periods of higher demand, thereby improving project economics and facilitating wider deployment. Such participation would also enable greater utilization of these storage

assets during periods of constrained supply, thereby enhancing system flexibility and supporting efficient grid operations.

It is also pertinent to note that BESS, one of the most mature and commercially established storage technologies, is already eligible to participate in the HP-DAM segment. However, other storage technologies including LDES mentioned above, which are at varying stages of technological and commercial maturity and face inherent cost disadvantages during the initial phases of deployment, are presently not accorded similar access.

It is submitted that restricting HP-DAM participation based on storage technology may inadvertently discourage innovation and limit the development of competitive alternatives. A technology-agnostic framework would enable all storage technologies to compete on a level playing field, allowing market forces to determine the most efficient and cost-effective solutions while fostering innovation, competition and long-term sectoral resilience.

In view of the above, it is respectfully submitted that HP-DAM participation may be extended to all eligible storage technologies including the Long Duration Energy Storage (LDES) technologies mentioned above through a technology-neutral and technology-agnostic framework. Such an approach would facilitate deployment of advanced storage solutions, accelerate RE integration, enhance grid reliability and support India's long-term energy security and decarbonization objectives.

In view of above it is respectfully submitted that the eligible categories of generating stations permitted to participate in the HP-DAM Segment may be modified as follows:

(i) Gas-based generating stations using imported RLNG and Naphtha

(ii) Imported coal-based generating stations using only imported coal

(iii) Energy Storage Systems (ESS).