

June 17, 2026

To

The Secretary,
TG Electricity Regulatory Commission,
Vidyut Niyamtran Bhavan, GTS Colony, Kalyan Nagar, Hyderabad – 500 045

From

Prayas (Energy Group),
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Respected Sir

Sub: Comments on the petitions of TGGENCO and TGDISCOMs , seeking approval of tariff discovered through competitive bidding and consent for procurement of 1500 MWh BESS

We wish to submit a few comments and suggestions on the petitions of TGGENCO and TGDISCOMs for 1500 MWh BESS. Our comments are towards better utilisation of the proposed BESS resource and improving future efforts to set up BESS projects in Telangana.

We apologise for delay in making this submission and request Hon'ble TGERC to kindly condone the delay. We request you to take our submission on record.

Thanking you,

Yours truly

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Comments by Prayas (Energy Group)
on the petitions of TGGENCO and TGDISCOMs, seeking approval of tariff discovered through competitive bidding and consent for procurement of 1500 MWh BESS

1. General comments

With the growing proportion of renewable power in the supply mix, storage is essential for reliable and cost optimised grid management in Telangana. Storage projects should have been ideally initiated a few years ago, but it is welcome that GoTG has approved this in 2025 and now, a concrete proposal is in its final stages of Regulatory approval.

The proposal is to install BESS connected to 220 kV at Maheswaram (187.5 MW x 4 hours) and Choutuppal (187.5 MW x 4 hours) substations of TGTRANSCO. The monthly capacity charge arrived through competitive bidding and reverse auctions are Rs. 2,98,000/MW/month at Maheswaram (Sarus Infrastructures Pvt Ltd) and Rs.3,14,000/MW/month at Choutuppal (Coal India Ltd). This is excluding GST and we presume that VGF support has been factored in. These prices look reasonable from similar awards of BESS projects in other states, as can be seen in Figure 1.

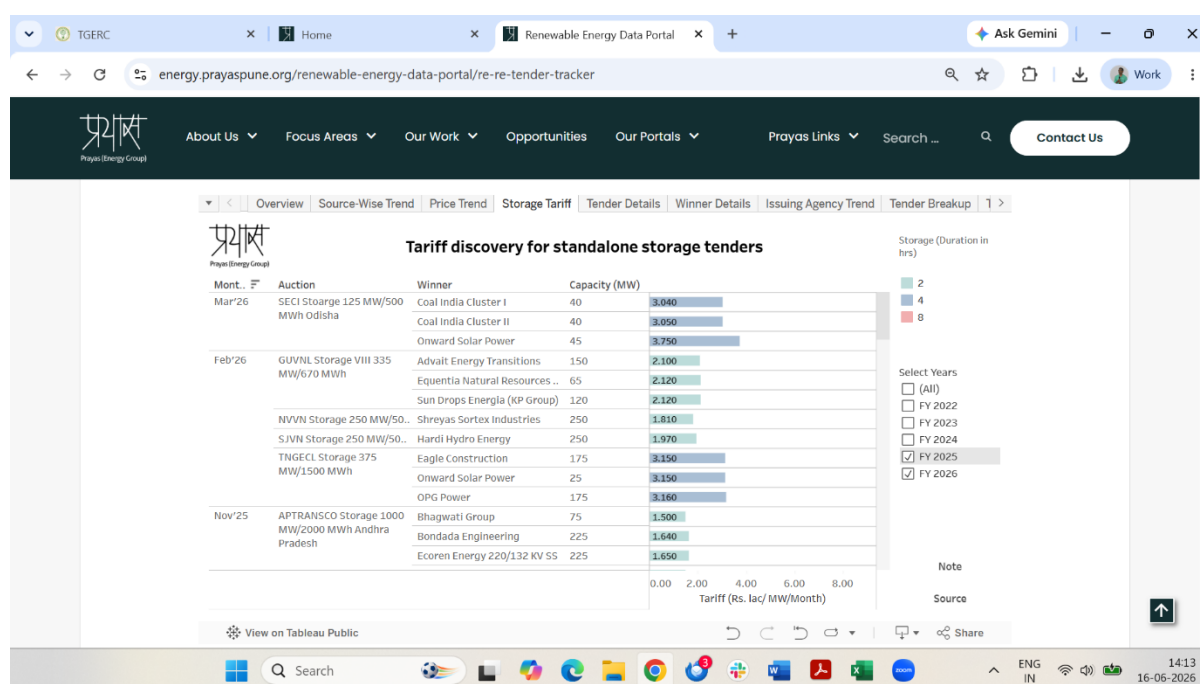


Figure 1: BESS discovered tariff in recent tenders

Source: Prayas Renewable Energy Data Portal (Storage tariff – 2025,2026),
<https://energy.prayaspune.org/renewable-energy-data-portal/re-re-tender-tracker>

It can be seen that 4-hour storage tariff is in the range of Rs 3.0-3.15 Lakhs/MW/month whereas 2-hour storage tariff is in the range of Rs.1.5-2.0 Lakhs/MW/month.

We understand that as per GO RT40 dt 9/9/2025, TGGENCO has been designated as the nodal agency for storage projects, and based on this, TGGENCO has initiated this BESS project. Since the objective of BESS is to ensure grid stability and optimise dispatch, we feel that TGTRANSCO or DISCOMs are better equipped to take up BESS projects and this may be a better option in future. The provision of TGGENCO claiming trade margin also needs review. If all this is charged (as 7 paise/unit or 0.5% of capacity charge), benefits should be passed on to consumers.

In this context, we wish to put forward two suggestions related to storage and grid balancing. TGGENCO could explore better operationalisation of Pumped storage at NSR and SSM projects as well as suitable Lift Irrigation projects, with required additional marginal investment for civil works and control & instrumentation. TGGENCO could also explore improving the flexibility of its coal fleet by suitable retrofits to have lower technical minimum (40%) and higher ramp rates.

2. Duration of storage and daily cycle of operation

As per the point 8 of the DISCOM petition, the *“...establishment of BESS will not only improve operational flexibility, but also would be helpful to reduce high price market purchases during peak hours”*. As per letter from TGPC to TGGENCO dated 2/11/2025, SLDC has suggested that *“... BESS must be capable of charging/discharging in blocks of either 50 MW/100 MWh or 75 MW/150 MWh ... to handle state deviations. ... BESS will be utilised for 24 hours to handle peak demand and also real-time deviations...BESS must be equipped with Grid Forming Inverter to support black start restoration...”* These are multiple objectives, which demand different design and operational modes of BESS.

The proposed storage is for 4 hours and an average of 1.5 cycles/day with 6300 cycles in its life. It is not clear how the decision was taken on 4-hour storage and average of 1.5 cycles/day. BESS is a versatile resource which can help in grid stability (through quick response MW support), transmission congestion management (based on suitable BESS location - not relevant for TG as of now) and daily power purchase optimisation (through energy arbitrage – charging when power tariff is low and discharging when it is high/market price is high).

The sizing, location and operation of BESS depends on the objectives. Transmission congestion due to geographical concentration of generating projects or load would dictate location of BESS. Grid stability support needs multiple cycle operation (which can impact of life/performance of BESS, since the total life time charging cycles are limited) of a relatively small BESS capacity during the day. Optimised energy arbitrage depends on the demand profile, generation mix and market price trends. As per most parts of the petition, the primary objective appears to be reduction of power purchase cost. If this is indeed the case, then 2-hour BESS with option of 2-cycle operation on certain days would be the best choice, a suggestion supported also by some modelling studies.

Ideally, decision on location, sizing and operation method of BESS should be arrived through modelling studies and we hope that this would be taken up for future BESS projects. It will be good if the key objective of the proposed BESS is made clear and the basis for arriving at the design is clarified. This will help SLDC to operate BESS appropriately. It will also help to provide inputs for better planning of other BESS projects in future.

3. Monitoring BESS performance for better project design in future

We understand that BESS will be monitored and dispatched by the SLDC. This is a good practice since SLDC has the responsibility of grid stability and short-term dispatch cost optimisation. Since this is the going to be the first operational BESS in the state, SLDC should closely monitor its operation, and provide inputs to improve its utilisation and improve the specifications for future BESS projects. This scope could be clearly given in the order of Hon'ble TGERC. Some of the factors that could be included are listed below.

- a. Capture charging and discharge cycles of BESS
- b. Report the cost saving achieved through BESS operation. SLDC letter to TGPCC (dated 25/3/2026, given as Annexure IV in Additional Information), has this analysis for 1500 MWh BESS for FY26. Similar analysis should be done for the actual projects, when they are in operation.
- c. Section 4.3 of the Draft standard PPA (Annexure II in Additional information), gives minimum standard annual availability of 95%, Round trip Efficiency of 85%, capacity degradation trajectory (around 2% per year) for 15 years (70% in 15th year) etc. SLDC should monitor all such parameters.
- d. SLDC should prepare and submit monthly and annual reports based on capture and analysis of all such parameters.

Another aspect is about the criteria for SLDC to decide on charging and discharging BESS. As for RE projects, there is clarity that they are must run and can be curtailed only when there are issues with grid security or transmission constraints. BESS is located at a transmission substation, and hence there could be operational constraints because of which charging or discharging is not possible. Will BESS be considered as a priority resource with dedicated infrastructure and resources or will some other considerations such as substation loading, catering to other consumers etc take a higher priority? Hon'ble TGERC could clarify the dispatch code for BESS in its order.

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