KERALA STATE ELECTRICITY REGULATORY COMMISSION
THIRUVANANTHAPURAM

Present : Shri T K Jose, Chairman
Shri B Pradeep, Member

OP No:16/2026

In the matter of	:	Petition filed under Section 63 of Electricity Act 2003 seeking approval for the adoption of the tariff discovered through Tariff- based Competitive Bidding for 250 MW/500 MWh of Grid-Scale Battery Energy Storage System (BESS) at Brahmapuram (BDPP Premises), Ernakulam, utilizing Viability Gap Funding(VGF) under the PSDF Component Scheme.
Petitioner	:	Kerala State Electricity Board Ltd
KSEBL represented by	:	Shri. Rajan M.P, Chief Engineer (Commercial & Tariff) Smt. Asha P A, Dy. Chief Engineer in charge Chief Engineer (REES) Shri. Shibu K Joseph, Dy. CE (Commercial) Smt. Latha S.V, Executive Engineer, TRAC Shri. Shine Raj, AEE, TRAC Smt. Sangeetha P, AEE (Com) Shri. Prakash R, AE, REES Smt. Asha A V, AE, TRAC
Respondents	:	1. M/s Shreyas Sortex Industries Pvt Ltd, Gorakpur, Uttar Pradesh 2. M/s NTPC Vidyut Vyapar Nigam Ltd(NVVN)
M/s Shreyas Sortex Industries Pvt Ltd represented by	:	1. Shri. Rithesh Bhale, VP- Operation (Solar Projects) 2. Shri. Shravan Kumar, Banking Head
M/s NTPC Vidyut Vyapar Nigam Ltd(NVVN) represented by	:	1. Sri. Abhishek Garg, Manager, M/s NVVN 2. Sri. Justin K. Kurian, Dy. GM (BD), M/s NVVN
Date of hearing	:	26.03.2026
Venue	:	Court Hall of the Commission

Order dated 12.06.2026

1. Kerala State Electricity Board Limited (hereinafter referred as petitioner or KSEBL) filed a petition on 27.02.2026 before the Commission with the following prayer:

   "*1. Grant approval for the implementation of 250 MW/500 MWh of Grid-Scale Battery Energy Storage System (BESS) at Brahmapuram substations under tariff based competitive bid.*
   2. Adopt the tariff of Rs. 1.81 Lakh/MW/Month, discovered in the tariff based competitive bid, as stated in the petition, as per section 63 of Electricity Act 2003."

2. Summary of the petition filed by M/s KSEB Ltd is given below.

   (1) Ministry of Power (MoP), vide the resolution No. 23/16/2020-R&R dated 10th March 2022 has notified the 'Guidelines for Procurement and Utilization of Battery Energy Storage Systems (BESS) as part of Generation, Transmission, and Distribution assets, along with Ancillary Services'. These guidelines recognized BESS as a critical infrastructure for integrating renewable energy into the grid and ensuring system stability.

   (2) Ministry of Power, GoI, vide the notification dated 09th June 2025 had issued Guidelines Viability Gap Funding (VGF) scheme supported by the Power System Development Fund (PSDF), for development of 30 GWh BESS for 15 states and to NTPC. Total financial support provided is Rs 5400.00 crore from PSDF.

   Under the scheme, Kerala was allocated 500 MWh of capacity with a financial support rate of Rs. 18 Lakhs per MWh, totaling Rs. 90 Crores.

   (3) Government of Kerala on 27th June 2025 had formally submitted a proposal to the National Load Dispatch Centre (NLDC) for the establishment of a 250 MW / 500 MWh Battery Energy Storage System (BESS) facility at the Brahmapuram 220kV Substation.

   (4) Subsequently, KSEBL prepared a Detailed Project Report (DPR) for development of a 250 MW / 500 MWh standalone BESS at Brahmapuram 220 kV Substation, with an estimated project cost of Rs. 600 crore and proposed VGF support of Rs. 90 crores @ Rs. 18 lakh per MWh.

   The proposal envisaged procurement through the Tariff-Based Competitive Bidding (TBCB) framework, with selection of a developer for setting up and operating the BESS under a Battery Energy Storage Purchase Agreement (BESPA). The proposal, along with the DPR, was submitted to NLDC for examination under the PSDF mechanism.

   (5) The 93rd meeting of Techno-Economic Sub-Group (TESG) held on 25.08.2025 reviewed the proposal of KSEB Ltd.

The MoP vide the Order dated 01.10.2025 has permitted the States to implement the BESS project in 2 hour/ 4 hour duration while retaining the contractual right to utilize at least 6300 cycles of the BESS during the contractual period.

(6) KSEBL has engaged M/s NTPC Vidyut Vyapar Nigam Ltd. (NVVN) as the Bid Process Coordinator (BPC) for the project.

(7) The Request for Selection (RfS) for setting up of the proposed 250MW/ 500MWh STU connected stand alone BESS in Kerala was published on the Bharat ETS portal on 11.10.2025, with the initial bid submission and opening dates fixed as 11.11.2025 and 12.11.2025 respectively.

(8) Meanwhile, MoP vide the Order dated 24.12.2025 mandated that the procuring entities shall ensure a minimum local content of 20% of the total project cost in BESS procurements under the VGF scheme. Further, it is also specified that the minimum local content requirement shall include, inter-alia, the indigenously developed Energy Management System (EMS) application software.

(9) The Techno-Economic Sub Group (TESG) during the meeting held on 06.01.2026 had directed the beneficiaries to furnish an undertaking of compliance regarding the Make in India requirement as mandated in the Order of the MoP dated 24.12.2025. The same was furnished and submitted by the KSEB Ltd vide the letter dated 16.01.2026.

(10) The final bid submission date was extended to 20.01.2026 and the techno-commercial bids were opened on 21.01.2026. The financial bids were opened on 29-01-2026 and after eliminating the H 1 bidder, the e-Reverse Auction (e-RA) was conducted on 30.01.2026. Seven bidders had participated in the financial bidding.

(11) M/s Shreyas Sortex Industries Pvt Ltd emerged as the L1 bidder, and the discovered rate is Rs. 1,81,000 per MW per month. The storage cost works out to Rs 3.59/ kWh. The details of the participants participated in the tender and quoted price are given below;

Sl	Bidder	Initial Rate (Rs/MW/ Month)	Final rate after eRA (Rs/MW/month)	Rank
1	Shreyas Sortex Industries Pvt Ltd	Rs.1,89,000 /-	Rs. 1,81,000 /-	L 1
2	OPG Power Generation Pvt Ltd	Rs.2,15,000 /-	Rs. 1,82,000 /-	L 2
3	Oriana Power Ltd	Rs.2,16,000 /-	Rs. 2,16,000 /-	L 3
4	DB power BESS Storage Ltd	Rs.2,21,000 /-	Rs. 2,21,000 /-	L 4
5	NTPC Green Energy Ltd.	Rs.2,22,000 /-	Rs.2,22,000 /-	L 5

6	Power Grid Corporation of India Ltd.	Rs.2,24,600 /-	Rs. 2,24,600 /-	L 6
7	KNR Constructions Ltd	Rs. 5,50,000 /-	--	Eliminated from eRA

(12) Subsequently, the tender evaluation committee constituted by the Bid Process Coordinator M/s NVVN, submitted the Techno-Commercial Evaluation report and recommended to award the contract to the L1 bidder.

NVVN vide the letter dated 02.02.2026 recommended that, KSEBL may issue Letter of Award (LoA) to M/s Shreyas Sortex Industries Private Limited for setting up of 250MW/ 500 MWh standalone BESS project at the tariff of Rs 1,81,000 per MW per month plus applicable GST.

(13) Subsequently, KSEBL has held rate negotiation with L1 bidder, however the L1 bidder, M/s Shreyas Sortex Industries Pvt Ltd, vide letter dated 06.02.2026 confirmed that their quoted rate is fair, competitive, and represents their final, rock-bottom rate for the project.

(14) KSEB Ltd submitted that the MoP vide the VGF sanction Order dated 09.06.2025 stipulates that BESPA shall be signed within 9 months from the date of issue of the VGF guidelines dated 09.06.2025, i.e., latest by 08.03.2026, to avail VGF.

Further, the BESS procurement guidelines dated10-03-2022 indicates a dead line of 30 days after issuance of LoA for signing the BESPA.

(15) Hence, under these stringent timeframe set in the various MoP VGF sanction orders and guidelines, the Letter of Award for 250 MW / 500 MWh BESS at Brahmapuram was issued to L1 bidder on 06-02-2026.

(16) The proposed project is engineered for high-intensity grid support, featuring a 2-hour discharge duration and a duty cycle of 420 cycles per year over a 15-year operational life. The system will be installed within BDPP premises at Brahmapuram 220 kV substation, strategic location that allows robust connectivity and efficient energy management for the Ernakulam district.

To ensure long-term reliability and operational efficiency, the developer is committed to an assured availability of 95%, and round-trip efficiency (RtE) of 85%. Further, the project infrastructure is supported by detailed technical specifications that limit the annual degradation to 2%, ensuring high performance throughout the operational life of the project.

The auxiliary consumption for the energy drawn from KSEBL supply will be charged at Industrial tariff.

(17) KSEBL clarified that, charging of BESS shall be undertaken on an opportunistic basis, duly considering demand conditions, generation availability, transmission constraints, and overall grid requirements.

At present, market prices during solar hours are significantly low; hence, whenever cheaper power is available in the market, it will be utilized for charging to minimize the Levelized Cost of Storage. Furthermore, during the daytime, KSEBL often surrenders tied-up power as part of maintaining the load-generation balance and cost optimization. Instead of such surrenders, this power can be effectively utilized for charging the battery energy storage system, ensuring better resource utilization and financial efficiency.

(18) KSEB Ltd submitted that the discovered rate of Rs 1.81 lakh/MW/Month is highly competitive compared to recent bids in other states, and its details are given below.

Sl	State	Capacity	Duration	Date of Bid	Rate (₹ L/MW/ Month)	Voltage Level
1	Rajasthan	1000 MW / 2000 MWh	2 Hour	08-10-2025	1.775 – 1.785	220 kV
2	Maharashtra	1500 MW / 3000 MWh	2 Hour	05-11-2025	1.66	33 kV
3	Gujarat	2000 MW / 4000 MWh	2 Hour	17-11-2025	1.85 – 1.89	66 kV
4	Rajasthan	500 MW / 2000 MWh	4 Hour	25-11-2025	2.85	400 kV
5	AP	1000 MW / 2000 MWh	2 Hour	29-11-2025	1.65 – 1.84	33 kV
6	Tamil Nadu	375 MW / 1500 MWh	4 Hour	30-01-2026	3.15	110 kV
7	Kerala	250 MW / 500 MWh	2 Hour	30-01-2026	1.81	

(19) Further, unlike the projects implemented through SECI and NHPC, which attract a trading margin of 7 paise per kWh, the PSDF scheme do not have trading margin. The total savings on this account during the project life is about Rs 18.00 crore. Further, to ensure better performance of the scheme, following clauses also included in the bidding documents;

- **Shortfall in availability during charging periods-** 1.5 times the quoted rate for availability shortfall.
- **Shortfall of discharge energy –** Liquidated Damages (LD) at the Average Market Clearing Price **in** peak-hour (18:30 hrs – 20:30 hrs) in DAM **of power exchange for the corresponding billing period.**
- For ensuring Round trip **Efficiency (RtE):** LD at the APPC rate applies for RtE lesser than 85% and tariff payment shall not be made for RtE lesser than 70%.

(20) KSEBL further submitted that, Scheduled Commissioning Date of the BESS under the scheme is on September 2027.

Since the early commissioning of the project falls in monsoon period when the energy shortage is considerably low, early commissioning incentive is not applied to this project. However, KSEBL will offtake the entire energy from the project in the event of early commissioning of the project in full or part.

(21) The proposed project will increase the internal power capacity of the State by 250MW, reducing the dependence to the extend in the ISTS Power corridor of 4260 MW. The proposed storage system will help to store energy to the extent of 500MWh (0.5 MU / day) for meeting peak power requirements. Further the Storage system will directly replace equal quantum of peak power purchase from the power exchange, and payment for BESS can be made from the Savings effected in peak power purchase.

(22) The proposed BESS project does not require any capital investment from KSEBL. Payments will commence only after one month of commercial operation date (CoD) and will be offset by savings in peak power purchase costs. The project, therefore, offers a financially sustainable solution for addressing the state's peak demand challenges while augmenting internal power storage capacity.

(23) Hence, KSEB Ltd requested the Commission to adopt the tariff of Rs.1.81 Lakh /MW/Month discovered through Tariff Based Competitive bidding for 250MW/500MWh of Grid Scale Battery Storage System at Brahmapuram as per the provisions of the EA-2003 and allow KSEB Ltd to enter into power purchase from this BESS, as per Regulation 77 of the KSERC(Terms and Conditions for Determination of Tariff) Regulations 2021.

3. KSEBL vide the letter dated 23.03.2026 has submitted a copy of the RfS and signed 'Battery Energy Storage Purchase Agreement (BESPA) dated 9th March 2026 before the Commission.

Hearing on the petition.

4. The hearing on the petition was conducted at the Court hall of the Commission at Thiruvananthapuram on 26.03.2026. Shri. Rajan M.P, Chief Engineer (Commercial & Tariff), Smt. Asha. P.A, Deputy Chief Engineer (REES) in charge of Chief Engineer (REES), and other senior officials appeared before the Commission on behalf of KSEBL. Shri. Rithesh Bhale, VP- Operation (Solar Projects), Sri Shravan Kumar, Banking Head appeared on behalf of M/s Shreyas Sortex Industries Pvt Ltd. Representatives of M/s NVVN appeared through online mode during the hearing. Summary of the deliberations during the hearings is given below.

(1) KSEBL during the hearing submitted the following;

- Due to the rapid increase in roof top solar (RtS) plants, the State has been facing severe operational challenges to the grid. There are surplus electricity during day time, and KSEBL is forced to surrender power contracted through long term basis during day time to absorb the surplus energy injected from the (RtS). However, there is severe power shortage during Non solar hours, for meeting the electriicty demand including the demand of the prosumers installed RtS. KSEBL has been purchasing electricity at excessive rates during non-solar hours for meeting these demands.

- Ministry of Power (MoP), Government of India (GoI) vide the Resolution dated 10.03.2022 has notified the bidding guidelines for procurement and utilization of Battery Energy Storage Systems (BESS). KSEBL has already taken steps to establish 125MW/ 500MWh BESS at Maylatti substation of KSEBL at Kasargod through M/s SECI. Further, another 125MW/500MWh BESS (total capacity) is under execution at four substation of KSEBL through NHPC.

- Ministry of Power (MoP), Government of India (GoI) vide order No: F. No. 48-15/7/2025-NRE Section dated 09.06.2025 had notified the 'Guidelines for Viability Gap Funding (VGF) Scheme for development of BESS supported through Power System Development Fund (PSDF)'.

  Under the Scheme, Central Government has allocated VGF for development of 30 GWh BESS capacity through Power System Development Fund (PSDF) for 15 number of states and to NTPC. Kerala State was allotted for 500 MWh of capacity with a financial support of Rs 18 Lakhs per MWh.

- KSEBL has engaged M/s NTPC Vidyut Vyapar Nigam Ltd(NVVN), a subsidiary of NTPC Ltd as the bid process coordinator. M/s NVVN on behalf of KSEB Ltd has prepared the bidding documents and submitted that there are no deviations in the bidding documents from the bidding guidelines notified by the MoP, GoI.

  After completing the bidding process, M/s Shreyas Sortex Industries Pvt Ltd emerged as the lowest bidder, which quoted the capacity charge @Rs 1,81,000/MW/month. The discovered rate is approximately Rs 3.59per kWh.

- In order to comply the stringent time frame specified in various MoP VGF sanction orders, guidelines, the LoA for the proposed project is issued on 06.02.2026. Subsequently, KSEB Ltd has signed the Battery Energy Storage Purchase Agreement with M/s Shreyas LFP Energy Pvt Ltd on 9th March 2026.

- KSEBL requested before the Commission for the approval for the implementation of 250MW/500MWh BESS at Brahmapuram under tariff based competitive bidding and adopt the tariff discovered under Section 63 of the EA-2003.

  KSEBL also clarified that, as per the bidding guidelines, the procurer has to get the approval of adoption of tariff within the effective date of the BESPA. As per the signed BESPA, 08.03.2026 is referred to as the 'effective date'.

(2) Respondent M/s NVVN, during hearing submitted the following;

(i) KSEBL has engaged NVVN as the Bid Processing Coordinator/ Authorized representative of KSEB Ltd to facilitate the tendering process for allocated BESS capacity under VGF Scheme. The tender for the BESS project was issued on 11.10.2025.

(ii) Seven bidders were participated in the bid and all the bidders quoted the full capacity of 250MW/500MWh BESS. Techo-commercial bids was opened on 21.01.2026. Financial bids was opened on 29.01.2026 and e-Reverse Auction (e-RA) was conducted on 31.01.2026.

In the bidding process, M/s Shreyas Sortex Industries Pvt Ltd, Gorakhpur was emerged as the L1 bidder, with the quoted tariff of Rs 1,81,000/MW/month.

(iii) Bid evaluation committee certified that the bidding process are strictly as per the bidding guidelines notified by the MoP, GoI, and recommended to award the contract to the L1 bidder M/s Shreyas Sortex Industries Pvt Ltd, Gorakhpur.

In reply to the query of the Commission, NVVN submitted that they will submit the conformity certificate issued by the evaluation committee before the Commission.

(3) Respondent M/s Shreyas Sortex Industries Pvt Ltd has submitted that, they are planning to commission the 125MW/ 500MWh BESS project within eighteen (18) months timelines, however target to expediate the implementation for the early commissioning of the project.

(4) Based on the deliberations during the hearing, and for ensuring timely completion of the project, the Commission directed the petitioner to clarify the following matters;

(i) The name and designation of the concerned official for monitoring the project.

(ii) Details of the load flow study report of BESS at BDPP.

(iii) Certificate issued by the Bid evaluation committee constituted by the respondent M/s NVVN.

(iv) Feasibility of the provision for the early commissioning of the proposed project.

(v) Whether VGF is the limiting factor in fixing the BESS capacity at 250MW/500MWh. What are the reasons of the KSEB Ltd for not opting for the 4-hour storage BESS.

(vi) Feasibility of installing 250MW/1000 MWh BESS instead of 250MW/ 500 MWh BESS.

(vii) What is the Status of the previously approved BESS projects by the Commission and the expected date of competition.

(viii) What is the applicability of the Automatic Generation Control to the proposed BESS.

Commission has directed KSEBL to submit the details within one week.

5. In compliance of the direction of the Commission, KSEBL vide the affidavit dated **22.04.2026** submitted the following clarifications on the queries raised by the Commission during the hearing conducted on 26.03.2026.

(i) **Name and designation of the officer monitoring the project**
KSEBL submitted that the Chief Engineer (Renewable Energy & Energy Saving and Power Engineering Design) [CE (REES & PED)] shall be the nodal officer responsible for monitoring and overseeing the implementation of the project on behalf of KSEBL.

(ii) **Load flow study report of BESS at BDPP**
KSEBL submitted that the Director (Transmission & System Operation), vide letter dated 05.08.2025 to CE (REES), has confirmed that connectivity of the proposed 250 MW BESS at the 220 kV level is technically more advantageous compared to interconnection at the 110 kV level, particularly with respect to system stability, fault levels, and power evacuation capability.

(iii) **Certificate from the Bid Evaluation Committee of M/s NVVN**

KSEBL submitted copies of the Bid Conformity Certificates issued by the Bid Evaluation Committee of M/s NTPC Vidyut Vyapar Nigam Limited (NVVN) before the Commission for information.

(iv) Feasibility of providing incentives for early commissioning of the project

KSEBL submitted the following regarding the issue.

- Scheduled Commissioning Date (SCD) of the project is 07.09.2027. Any advancement in commissioning may result in the Commercial Operation Date (CoD) falling during the monsoon months of June–July, during which the comparative operational benefit of BESS is relatively lower due to reduced peak demand conditions.
- Further, provision of an Early Commissioning Incentive may introduce uncertainty in the actual commissioning timeline, which could adversely impact KSEBL's peak power procurement planning and contractual commitments. It is also pertinent to note that none of the States allocated BESS capacity under the PSDF VGF scheme have incorporated provisions for early commissioning incentives in their respective bidding documents.
- Additionally, the lead time for procurement and installation of critical equipment such as 220 kV transformers is substantial.

Considering these aspects, KSEBL has prudently decided not to provide any incentive for early commissioning of the project.

(v) Whether VGF is the limiting factor in fixing the BESS capacity at 250 MW / 500 MWh (two-hour storage), and reasons for not opting for four-hour BESS

KSEBL submitted that the total BESS capacity allocated to the State of Kerala under the PSDF VGF scheme is 500 MWh. However, it is clarified that VGF is not the limiting factor in determining the configuration of the BESS system.

The selection of a 250 MW / 500 MWh (two-hour storage) configuration was arrived at after detailed deliberations with all concerned stakeholders, including the Director (TSO), Chief Engineer (TSO), Chief Engineer (Commercial & Tariff), and the Financial Adviser. It is further submitted that, for the same energy storage capacity, a two-hour BESS configuration provides double the power handling capability compared to a four-hour configuration, thereby offering greater operational flexibility for peak shaving, grid balancing, and ancillary services.

Moreover, KSEBL is already in the process of implementing other BESS projects with four-hour storage duration at different locations. In view of the above considerations, it was deemed technically and operationally appropriate to adopt a two-hour storage configuration for the BDPP BESS project.

(vi) Feasibility of installing 250 MW / 1000 MWh BESS instead of 250 MW / 500 MWh BESS and cost-benefit analysis

KSEBL submitted that the BESS capacity allocated under the PSDF VGF scheme is limited to 500 MWh. Any proposal to augment the storage capacity by an additional 500 MWh without VGF support would significantly increase the project cost and tariff, thereby affecting the overall financial viability of the project.

Further, clubbing VGF-supported capacity with non-VGF capacity within the same project structure may lead to tariff distortion and higher discovered tariffs, rendering the project economically unviable. It is also submitted that all BESS projects undertaken by KSEBL so far, have been implemented with substantial VGF support, which is critical to ensuring affordability and viability of such storage projects. Hence, KSEBL submitted that the proposed configuration of 250 MW / 500 MWh BESS represents an optimal balance between technical performance, financial viability, and regulatory prudence.

(vii) The status of previously approved BESS projects, along with expected date of completion.

Sl	Location	Capacity	Duration	Connectivity voltage	VGF	Developer	Expected CoD	Status
		(MW / MWh)	(Hours)	(kV)	(₹L/ MWh)			
1	Mylatti	125 / 500	4	110	27	M/s JSW Neo Energy Ltd.	Oct-26	Foudations construction in rapid progress
2	Mulleria	15 / 60	4	33	27	M/s Opera Energy Pvt Ltd.	Oct-26	Construction to Start. Deposit Amount for Bay Construction Remitted.
3	Sreekant-apuram	40 / 160	4	110	27	M/s NTPC Green Energy Ltd.	Oct-26	Land Grading in progress
4	Areacode	30/ 120	4	110	27	M/s Tata Power Renewable Energy Ltd	Oct-26	Foundation Construction in progress
5	Pothencode	40/ 160	4	110	27	M/s NTPC Green Energy Ltd.	Oct-26	Land Grading in Progress

(viii) The applicability of generator AGC in this project.

The BESS proposals submitted by all eligible entities with PSDF VGF allocation were discussed in the 93rd Techno-Economic Sub Group meeting held on 25.08.2025 by NLDC, wherein it was advised that the "proposed BESS facility may preferably be able to provide Secondary Frequency Response, Tertiary Frequency Response, Synthetic Inertia, and Black-start capability to the grid.". The tender document was prepared in line with the specifications outlined in the "Detailed Procedure for SRAS" published by GRID-INDIA.

KSEBL further submitted that Battery Energy Storage Systems, being inverter-based resources, are inherently capable of providing rapid and accurate response to grid frequency variations. Such systems are technically well suited to support frequency regulation and ancillary services. This position is consistent with the provisions of the CEA Technical Standards for Connectivity to the Grid and the Indian Electricity Grid Code (IEGC), 2023, wherein energy storage systems are recognized as flexible resources capable of contributing to grid stability and reliability.

However, in the present Indian power system, AGC has been operationalized as part of Secondary Reserve Ancillary Services (SRAS), wherein automated control signals are generated by the National Load Despatch Centre and transmitted through RLDCs and SLDCs to participating generators for correction of Area Control Error and maintenance of grid frequency. The SRAS framework requires participating entities to operate under continuous closed-loop control, respond dynamically to real-time AGC signals, and maintain committed capacity for upward and downward regulation. Further, such participation necessitates the availability of high-resolution real-time telemetry, robust and redundant communication systems, and seamless integration with the SCADA/EMS systems of the load despatch centres.

KSEBL further submitted that, while the regulatory framework permits participation of eligible entities, including energy storage systems, in ancillary services, such participation is contingent upon compliance with the stringent technical, operational, and communication requirements prescribed under the prevailing regulations and procedures.

At present, AGC participation is primarily implemented for conventional generating stations, and integration of BESS into AGC is still evolving within the Indian regulatory and operational framework.

In the context of the present project, the BESS is envisaged for on-demand usage by KSEBL for peak and off-peak energy management. The operational philosophy of the project is schedule-driven, wherein charging and discharging of the BESS are controlled by the procurer based on system requirements. The project is not structured for continuous real-time

AGC operation, nor does it envisage reservation of capacity exclusively for frequency regulation services. Further, the current scope of the project does not mandate implementation of AGC-compatible infrastructure such as bi-directional communication with load despatch centres, real-time automated control interfaces, and performance-linked compliance mechanisms.

In view of the above, KSEBL submitted that, while BESS is technically capable of supporting AGC and may be considered for participation in ancillary services in future, **AGC is not presently envisaged as part of the current project framework**. Implementation of AGC would require specific regulatory provisions, appropriate commercial mechanisms, and the necessary technical infrastructure, all of which are beyond the scope of the present RfS and the associated agreements. However, the proposed BESS system can be made future-ready for integration with advanced grid services, including AGC, subject to regulatory directions and system readiness at a later stage.

6. KSEBL further submitted in the affidavit dated 22.04.2026 that, KSEBL has issued the LoA to the L1 bidder M/s Shreyas Sortex Industries Pvt Ltd on 06.02.2026. Further, in order to adhere to the strict timelines prescribed by the Central Government, KSEBL signed the Battery Energy Storage Purchase Agreement (BESPA) with the L1 bidder on 09.03.2026 with the effective date from 08.03.2026. Hence, KSEBL also requested to approve the BESPA also. Accordingly, KSEBL has modified the prayer of the petition as follows;

“ (1) In the above background, and in accordance with Regulation 77 of the KSERC (Terms and Conditions for determination of Tariff) Regulations,2021, it is respectfully prayed that this Hon’ble Commission may be pleased to grant approval for the implementation of 250 MW / 500 MWh of Grid-Scale Battery Energy Storage System (BESS) at Brahmapuram substations under tariff based competitive bid.

(2) Kindly adopt the tariff of Rs. 1.81 L/MW/Month, discovered in the tariff based competitive bid, as stated in the petition, as per section 63 of Electricity Act 2003.

(3) Approve the BESPA signed on 09.03.2026, with effect from 08.03.2026.”

Analysis and Decision of the Commission

7. Commission having examined the petition filed by KSEBL dated 27.02.2026, deliberations during the hearing held on 26.03.2026, additional affidavit dated 22.04.2026, bidding guidelines for Procurement and Utilization of Battery Energy Storage Systems as part of Generation, Transmission and Distribution assets, along with Ancillary Services’ dated 10.03.2022, ‘Guidelines for Viability Gap Funding (VGF) Scheme for development of BESS supported through Power System Development Fund (PSDF)’dated 09.06.2025, provisions of the Electricity Act, 2003, other relevant Rules and Regulations in force, decided on the matter as follows.

8. As per the additional affidavit of the KSEBL dated 22.04.2026, the prayers of the instant petition are as follows;

(1) Grant approval for the implementation of 250 MW / 500 MWh of Grid-Scale Battery Energy Storage System (BESS) at Brahmapuram substations under tariff based competitive bid.

(2) Adopt the tariff of Rs. 1.81 L/MW/Month, discovered in the tariff based competitive bid, as per section 63 of Electricity Act 2003.

(3) Approve the BESPA signed on 09.03.2026, with effect from 08.03.2026.

9. As above, KSEBL has filed the instant petition for the approval of the implementation of the 250MW/ 500MWh Battery Energy Storage System (BESS) at the 220 kV substation at Brahmapuram, by availing the 'Viability Gap Funding (VGF) for development of BESS supported through Power System Development Fund (PSDF). The provisions in the Electricity Act, 2003, guidelines notified by the Central Government for tariff based competitive bidding, guidelines for BESS schemes developed by availing VGF through PSDF etc are discussed below.

10. Provisions of the Electricity Act, 2003.

(i) Section 63 of the EA-2003

"Section 63. (Determination of tariff by bidding process):
Notwithstanding anything contained in section 62, the Appropriate Commission shall adopt the tariff if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government.

(ii) Section 86(1) (b) of the EA-2003

" Section 86. (Functions of State Commission): --- (1) The State Commission shall discharge the following functions, namely: -
……..
(b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;

As above, as per the Section 63 of the EA-2003, CERC/SERCs has to adopt the tariff, if the such tariff is determined through transparent process of bidding in accordance with the guidelines notified by the Central Government.

Further, as per the Section 86(1) (b) of the EA-2003, KSEBL as the incumbent distribution licensee in the State has to enter into power purchase agreement including power procurement only with the approval of this Commission.

11. Bidding guidelines notified by Central Government under Section 63 of the EA-2003.

Ministry of Power (MoP), Government of India (GoI) vide the resolution dated 10.03.2022 has notified the 'Guidelines for Procurement and Utilization of Battery Energy Storage Systems as part of Generation, Transmission and Distribution assets, along with Ancillary Services' with the following specific objectives;

"2. Objectives
The specific objectives of these Guidelines are as follows:

a. To facilitate procurement of BESS, as part of individual RE power projects or separately, for addressing the variability/firming power supply / increasing energy output / extending the time of supply from an individual RE project or a portfolio of RE projects, augmentation of existing RE Projects and/or to provide ancillary, grid support and flexibility services for the grid.
b. To facilitate procurement of BESS for optimum utilization of transmission and distribution network.
c. To ensure transparency and fairness in procurement processes/ and to provide for a framework for an Intermediary Procurer as an Aggregator / Trading licensees / Implementing Agency for the inter-state/intra-state sale-purchase of power.
d. To provide standardization and uniformity in processes and a risk-sharing framework between various stakeholders, involved in the energy storage and storage capacity procurement, thereby encouraging competition and enhanced bankability of the Projects."

The Guideline dated 10.03.2022 prescribes the procedure for preparation of the bidding documents for inviting bids, bid structure, bidding process, eligibility criteria of the participating bidders, procedure for bid submission and evaluation, procedures to be adopted for award of contract, payment security and related issues etc. Further, financial support including VGF for establishing BESS is sanctioned through separate guidelines/orders issued by the Central Government from time to time.

12. Ministry of Power (MoP), Government of India (GoI), vide the letter dated 09.06.2025 has communicated that, Central Government has sanctioned a budgetary support of Rs 5400.00 crore for the development of 30GWh BESS capacity in 15 number of States including Kerala and NTPC, by providing viability gap fund through power system development fund (PSDF) @Rs 18 lakh/MWh.

13. Ministry of Power, Government of India, vide the notification dated 09.06.2025 has notified the '**Guidelines for Viability Gap Funding scheme for development of Battery Energy Storage Systems supported through Power System Development Fund(PSDF)**'. The relevant paragraph of the said guidelines is extracted below for ready reference.

"……
2 Scheme Overview

2.1 Viability Gap Funding (VGF): VGF of Rs 18 lakh per MWh, shall be provided and is aimed at supporting a BESS capacity of 30 GWh.

2.2 Scheme Budget: This scheme has a budgetary allocation of Rs 5,400 Crore. The VGF shall be a non-recurring expenditure and shall be fully funded from Power System Development Fund (PSDF). The disbursement of funds shall be as per procedure applicable for PSDF. The VGF for each project shall be disbursed to the Eligible Entity/ REIA, once CEA certifies the achievement of the disbursement schedule milestone and submission of the required BG.

2.3 ***Commissioning Period:*** *The projects are required to be commissioned within a period of* ***18 months*** *from the date of signing of Battery Energy Storage Purchase Agreement (BESPA) / Power Purchase Agreement (PPA).*

2.4 ***Eligible Entities:*** *State utilities or agencies authorized by States Governments or Central Government shall be eligible.*

2.5 ***Disbursement schedule:*** *The VGF amount to the eligible projects shall be disbursed in three tranches as detailed below.*

Milestone	*% VGF disbursed*
On financial closure, subject to submission of bank guarantee.	*20*
On Commercial Operation Date (COD)	*50*
Completion of 1st year from COD	*30*
Total	*100*

2.6 Storage Duration: The BESS capacity should preferably be with 2-hour discharge duration and average 1.5 cycles in a day i.e within 24 Hour period. However, the Eligible Entity may vary the duration, no of cycles as required.

3. Implementation Model

3.1 Bidding Process: BESS projects shall be awarded using the Tariff Based Competitive Bidding (TBCB) process under section 63 of the Electricity Act, 2003.

3.2 Contract Period: The contract period shall be specified in the RfS document, in accordance with the BESS TBCB Guidelines.The contract shall be awarded on Build Own Operate (BOO)/ Build Own Operate Transfer (BOOT) basis preferably for a contract period of 12 to 15 years.

3.3 ***Bidding Parameter:*** *Developers shall compete based on the annualized fixed cost they offer, expressed in rupees per Megawatt (MW) per Month or on Rs/kWh after factoring in the VGF specified in the RfS.*

3.4 Eligible Entities are required to invite bids, either by themselves or through ***Renewable Energy Implementing Agencies designated by Central Governmen****t, following the bidding guidelines issued under section 63 of the Electricity Act, 2003. The BESPA / PPA shall be signed within 9 months from the date of issue of these guidelines, to be eligible for VGF.*

3.5 States / NTPC desirous of availing the VGF are required to submit their proposal to the Central Electricity Authority (CEA) within 60 days from the date of issue of these Guidelines, specifying the implementing agency, location(s) and size of BESS capacity planned for implementation for screening and approval for VGF funding through PSDF.

3.6 The project may be connected at InSTS or ISTS. The land and InSTS grid connectivity shall be provided by the respective Eligible Entities.

3.7 The payment security mechanism shall be as per Electricity (Late Payment Surcharge & Related matters), Rules 2022 as amended from time to time. CEA will monitor the implementation of the scheme as well as the progress of the awarded projects under the Scheme through a Management Information System (MIS) portal and submit monthly reports to the Ministry of Power. The monitoring parameters shall include details of physical and financial progress vis-a-vis the agreed milestones. The performance levels may also be verified by CEA on at least quarterly basis.

3.8 ***Bank Guarantee:*** *The Eligible Entities/REIAs shall be required to obtain a Bank Guarantee (BG) of value equal to the VGF to be disbursed, prior to its release to the developer, as specified in the RfS. This BG shall be liable for encashment to recover the VGF amount in the event of non-fulfilment of the scheme conditions specified in the Bidding Documents. The BG for the VGF sanctioned up to COD may be released within one year of COD.*

Allocation of BESS Capacity under the scheme is given below;

S.N.	***State / Entity***	***BESS Capacity Allocation (MWh)***
1	*Rajasthan*	*4,000*
2	*Gujarat*	*4,000*
3	*Maharashtra*	*4,000*
4	*Tamil Nadu*	*1,500*
5	*Karnataka*	*2,000*
6	*Andhra Pradesh*	*2,000*
7	*Madhya Pradesh*	*1,500*
8	*Telangana*	*1,500*
9	*Uttar Pradesh*	*1,500*
10	*Haryana*	*500*
11	*Kerala*	*500*
12	*Punjab*	*500*
13	*Chhattisgarh*	*500*
14	*Odisha*	*500*
15	*Uttarakhand*	*500*
16	*NTPC*	*5,000*
	TOTAL	***30,000***

14. Commission has examined the instant petition filed by KSEBL for the approval and adoption of tariff for the implementation of 250MW/ 500MWh Grid Scale Battery Energy Storage System (BESS) at Brahmapuram substation under tariff based competitive bidding.

15. The first prayer of KSEBL is to ‘grant approval for the implementation of the proposed BESS at Brahmapuram. Commission has examined the necessity of implementing electricity storage schemes including Battery Energy Storage System (BESS) in the State and noted the following;

(i) During the last few years, the annual capacity addition of Solar power especially Roof top Solar (RtS) installation in the State is about 550MW to 660MW with an annual increase of upto 55%. Since, the electricity from solar plant is available only during daytime, this results in surplus electricity in the State during day time, and forced KSEB Ltd to surrender large quantum of power contracted from coal based Central Generating Stations (CGS) and Independent Power Plants (IPP) during day time. But these sources are very essential for meeting the electricity demand in the State during Non solar hours.

(ii) KSEBL also has to provide electricity to the prosumers who installed (RtS) and availing the net metering facility during ‘non-solar’ hours by purchasing power from the short term market.

(iii) Due to the large capacity addition from RtS by prosumers, the day time demand in the State is less than 3000MW, where as the peak demand is more than 5500MW in most of the months.

(iv) Electricity price in the market is highly depend on the demand and supply position. Since the electricity demand is low and supply is high during day time, electricity is available in the market at cheaper rate less than Rs 3.00/unit during solar hours. However, due to the excessive demand during Non-solar hours, especially also due to the drawal of electricity by prosumers who installed RtS, the price of electricity during ‘non-solar hours’ especially during peak hours is more than Rs 10/unit.

(v) In order to address these issues, as the incumbent distribution licensee has to install more and more storage systems including BESS so that, the cheaper electricity available during day time can be used for charging the storage system and the stored electricity can be discharged during ‘non-solar hours’ based on the requirement.

Considering the critical electricity demand profile of the State, and also the high volatility in electricity prices in the market, Commission appreciate the efforts taken to install the proposed 250MW/ 500MWh BESS at Brahmapuram substation of KSEBL. However, the contribution of the proposed BESS is 250MW during 2 hours a day, and the annual energy discharge is merely 183MU on annual basis, KSEBL has to propose and implement more energy storage systems including BESS in the State.

With the above background, Commission hereby permits KSEBL to proceed with the implementation of the proposed 250MW/ 500MWh BESS at Brahmapuram.

16. Second prayer of the KSEBL is to adopt the tariff of Rs 1.81 lakh/MW/Month, discovered in the tariff based competitive bid for the implementation of the proposed 250MW/ 500MWh BESS at Brahmapuram as per Section 63 of the EA-2003. Commission has examined the prayer of the petitioner in detail and noted the following;

(1) Ministry of Power (MoP), Government of India (GoI) vide the F.No. 48-15/7/2025-NRE Section has allocated 500MWh of the Battery Energy Storage System (BESS) to the Kerala State, under the 'viability Gap Funding (VGF) Scheme for development of BESS supported through power system development fund'. VGF available to the Kerala for implementing 500MWh BESS is Rs 90.00 crore @Rs 18/lakh/MWh approved by the Central Government.

(2) State Government vide the letter dated 27.06.2025 addressed to the nodal agency NLDC, has recommended the proposal of KSEBL to implement the Scheme at its substation at Brahmapuram. KSEBL has prepared detailed project report for the development of BESS at its 220kV substation at Brahmapuram, with a total capital cost of Rs 600.00 Crore and submitted to the NLDC, the nodal agency for granting the PSDF.

(3) As per the Clause 3.4 of the 'Guidelines for Viability Gap Funding (VGF) Scheme for development of BESS supported through power system development fund' notified by the MoP, GoI on 09.06.2025, the eligible entities can invite bids for the selection of the bidders either by 'themselves or through Renewable Energy Implementing Agencies designated by Central Government, following the bidding guidelines issued under Section 63 of the EA-2003.

(4) KSEBL, on 11.09.2025, has engaged NTPC Vidyut Vyapar Nigam Limited (NVVN), a wholly owned subsidiary of NTPC as the Bid Processing Co-ordinator/ Authorised representative of KSEBL to facilitate the tendering process for allocated BESS Capacity under VGF Scheme.

(5) M/s NVVN on 11.10.2025 issued 'Request for Selection (RfS)' and published the tender for setting up of 250MW/ 500 MWh, STU connected BESS in the State of Kerala for KSEBL on Bharat portal.

M/s NVVN vide the letter dated 09.02.2026 addressed to the KSEBL, and also vide the Conformity Certificate dated 30.03.2026, certified that, the tender documents including the 'Request for Selection (RfS), Battery Energy Storage Purchase Agreement (BESPA), and all subsequent amendments there to are in conformity with the 'Guidelines for Procurement and Utilization of Battery Energy Storage Systems as part of Generation, Transmission and Distribution assets, along with Ancillary Services' notified by MoP, GoI dated 10.03.2022, and 'Guidelines for Viability Gap Funding (VGF) Scheme for development of BESS supported through power system development fund' notified by the MoP, GoI on 09.06.2025.

NVVN also certified that, there was no deviation in the tender from the guidelines in the RfS document for the above tender.

(6) NVVN constituted a committee for evaluation of bids (evaluation committee) with three members from ‘contract & materials, indenting department, and finance.

(7) Last date of bid submission was 20.01.2026, and the techno-commercial bids were opened on 21.01.2026. Seven bidders were participated in the bid. Evaluation committee ascertained that, all the bidders are found to fully meet the techno-commercial criteria and qualified for opening of the financial bid.

(8) Financial bids were opened on Bharat ETS e-bidding portal on 29.01.2026. After eliminating the H1 bidder, NVVN conducted e-Reverse Auction (e-RA) on 30.01.2026. Details of the bidders participated in the bid and the rates quoted are given below.

Sl	Bidder	Initial Rate (Rs/MW/ Month)	Final rate after eRA (Rs/MW/month)	Rank
1	Shreyas Sortex Industries Pvt Ltd	Rs.1,89,000 /-	Rs. 1,81,000 /-	L 1
2	OPG Power Generation Pvt Ltd	Rs.2,15,000 /-	Rs. 1,82,000 /-	L 2
3	Oriana Power Ltd	Rs.2,16,000 /-	Rs. 2,16,000 /-	L 3
4	DB power BESS Storage Ltd	Rs.2,21,000 /-	Rs. 2,21,000 /-	L 4
5	NTPC Green Energy Ltd.	Rs.2,22,000 /-	Rs.2,22,000 /-	L 5
6	Power Grid Corporation of India Ltd.	Rs.2,24,600 /-	Rs. 2,24,600 /-	L 6
7	KNR Constructions Ltd	Rs. 5,50,000 /-	--	Eliminated from eRA

M/s Shreyas Sortex Industries Pvt Ltd emerged as the L1 bidder with final discovered price of Rs 1,81,000 per MW/ Month plus applicable GST

(9) M/s NVVN vide the letter dated 02.02.2026 to the KSEBL, recommended to issue Letter of Award (LoA) to the L1 bidder M/s Shreyas Sortex Industries Private Ltd at the discovered tariff of Rs 1,81,000 per MW per month as per the e-RA conducted on 30.01.2026. The relevant portion of the recommendation letter issued by M/s NVVN to KSEBL is given below.

“Ref. No. NVVN/BD/BESS/KL/26/02/01 Date: 02.02.2026

To
Deputy Chief Engineer (REES),
Office of the Chief Engineer (REES & PED),
Kerala State Electricity Board Limited (KSEBL),
Vidyuthi Bhavanam, Pattom,
Thiruvananthapuram-695004, Kerala

Sub: Recommendation of Award for Setting up of 250 MW/500 MWh STU Connected Standalone BESS in Kerala

Ref:

1. *KSEB Letter to NVVN No: CE (REES)/AEE II/BESS/BPC/284 dated 11.09.2025*
2. *RfS by NVVN Ref No: NVVN/C&M/BESS-04/2025-26 dated 11.10.2025*

Sir/Madam,

With reference to the subject cited above and the corresponding references, the following is submitted for your kind consideration:

1. *Kerala State Electricity Board Limited (KSEBL), vide letter Ref. No. CE (REES)/AEE II/BESS/BPC/284 dated 11.09.2025, engaged NVVN as the Bid Processing Coordinator (BPC)/Authorized Representative for facilitating the tendering process of a 500 MWh Battery Energy Storage System (BESS) under the PSDF Scheme.*

2. *The Request for Selection (RfS) bearing Ref. No. NVVN/C&M/BESS-04/2025-26 was published on the Bharat ETS portal on 11.10.2025, with the initial Bid Submission Date as 11.11.2025 and Bid Opening Date as 12.11.2025. However, in order to provide adequate time to bidders for preparation of competitive offers after issuance of amendments and clarifications, the bid submission date was extended multiple times. The final Bid Submission Date and Bid Opening Date were extended up to 20.01.2026 and 21.01.2026, respectively. Accordingly, the Techno-Commercial Bids of the participating bidders (7 bidders) were opened on 21.01.2026.*

3. *The Evaluation Report for the techno-commercial bids was approved by the Competent Authority on 28.01.2026. Subsequently, the price bids of all qualified bidders (seven in number) were opened on the ISN-ETS portal on 29.01.2026 in the presence of a representative of KSEBL.*

4. *Upon opening of the Financial Bids, the bidder quoting the highest rate (H1) was eliminated in accordance with RfS Clause. Thereafter, an e-Reverse Auction (e-RA) was conducted on 30.01.2026 in the presence of the representative of KSEBL. After conclusion of the e-RA process, the discovered L1 rate is INR 1,81,000.00 per MW per month plus applicable GST, and M/s Shreyas Sortex Industries Private Limited has emerged as successful bidder.*

5. *As per Clause 44.1 of the RfS, subsequent to the conclusion of the e-Reverse Auction process, the lowest quoted bidder after the reverse auction shall be selected as the Successful Bidder for the project.*

6. *Accordingly, it is recommended that KSEBL may issue the Letter of Award (LoA) to M/s Shreyas Sortex Industries Private Limited for setting up a 250 MW / 500 MWh Standalone BESS Project at a tariff of INR 1,81,000 per MW per month plus applicable GST.'*

17. The Bid Evaluation Committee constituted by M/s NVVN vide the 'Conformity Certificate' dated 30.03.2026 certified that, after the conclusion of the bid submissions, the Evaluation Committee constituted for evaluation of the bids has conducted the techno commercial as well as the financial bid evaluation in conformity to the provisions of the RfS.

18. Commission has examined the bidding process done by M/s NVVN as detailed in paragraphs 16 and 17 above. The bidding process for the selection of the developer for setting up of the proposed 250MW/ 500 MWh ISTS connected stand alone Battery Energy Storage System at the 220 kV substation Brahmapuram was done by M/s NVVN on behalf of KSEBL as per the Section 63 of the Electricity Act, 2003, and the 'Guidelines for Procurement and Utilization of Battery Energy Storage Systems as part of Generation, Transmission and Distribution assets, along with Ancillary Services' notified by MoP, GoI dated 10.03.2022, and 'Guidelines for Viability Gap Funding (VGF) Scheme for development of BESS supported through power system development fund' notified by the MoP, GoI on 09.06.2025.

Hence, the Commission decided to adopt the L1 tariff @Rs 1,81,000/- per MW/ month by M/s Shreyas Sortex Industries Pvt Ld. Second prayer of the petitioner is decided accordingly.

19. The third prayer of KSEBL vide the additional affidavit dated 22.04.2026 is to approve the Battery Energy Storage Purchase Agreement (BESPA) dated 09.03.2026 as per the Section 86(1) (b) of the EA-2003.

KSEBL during the hearing and also vide the additional affidavit dated 22.04.2026, submitted that in order to strictly comply with the timelines specified in the 'Guidelines for Viability Gap Funding (VGF) Scheme for development of BESS supported through power system development fund' notified by the MoP, GoI on 09.06.2025, wherein it is mandated that, BESPA shall be signed within 9 months from the date of issue of the said guidelines.
Commission also noted that, M/s NVVN, the bid process coordinator engaged by KSEBL vide the conformity certificate dated 30.03.2026 certified that, the draft BESPA form part of the bidding documents issued on 11.10.2025 and its amendments are strictly as per the bidding guidelines notified by MoP, GoI.

20. However, Commission noted that, some of the important aspects related to implementation of the BESS project are yet to be addressed by KSEBL. Details are discussed below.

(1) **Charging power of the BESS.**

(i) As per the bidding documents and BESPA, KSEBL as the buying entity shall provide the electricity required for charging BESS during the entire 15 year term of the agreement. The tariff of the electricity used for charging is definitely a deciding factor in assessing the viability of any BESS project.

In this matter KSEBL in its petition dated 27.02.2026 submitted as follows;

" 22. The charging of the Battery Energy Storage System (BESS) shall be undertaken on an opportunistic basis, duly considering demand conditions, generation availability, transmission constraints, and overall grid requirements. At present, market prices during solar hours are significantly low; hence, whenever cheaper power is available in the market, it will be utilized for charging to minimize the Levelized Cost of Storage. Furthermore, during the daytime, KSEBL often surrenders tied-up power as part of maintaining the load-generation balance and cost optimization. Instead of such surrenders, this power can be effectively utilized for charging the battery energy storage system, ensuring better resource utilization and financial efficiency."

As extracted above, KSEBL has proposed to avail the charging power required for the BESS project on an opportunistic basis as and when the cheaper power is available in the market and/or by utilising the power surrendered during day time from long term contract such as CGS and IPPs etc on RTC basis.

(ii) However, there is no certainty that, cheaper power is available during the entire PPA period of 15 years on monthly basis. It is fact that, the market rates of electricity also highly fluctuating based on the demand and supply position and extraneous factors. KSEBL could not submit any documents based on the market study to establish that, cheaper electricity may be available during day time for meeting the charging power for BESS projects, for the entire contract period.

KSEBL also not submitted any benchmark rates/ upper ceiling rates for the electricity used to charge the BESS to ensure that the overall tariff of the electricity discharged become economically viable.

(iii) KSEBL already has been implementing two other BESS projects, first one 125MW/500MWh through SECI at Mylatti, Kasargod and the second one through NHPC at four substation locations of KSEBL with a total capacity of 125MW /500MWh. In these projects also, KSEBL propose to avail the charging power from the market through opportunity basis.

(iv) As already mentioned, the financial viability of the BESS project depends on the rate of electricity used for charging the BESS project.

Considering these aspects in detail, Commission hereby direct KSEBL to earmark sufficient cheaper power from firm sources for charging the BESS projects in hand/ or appropriate alternate viable proposals may be submitted before the Commission along with the updated recourse adequacy plan as directed vide Order dated 30.12.2025 in OP No.06/2025. KSEB Ltd shall also clearly specify the ceiling rate of such cheaper power earmarked for charging.

(2) **Storage cost in per unit basis.**

Commission noted that, BESS developers are selected on the basis of the tariff quoted on 'per MW/ month basis, as per the BESS bidding guidelines and RfS documents. But, the capacity charges quoted by the developers on per MW basis does not give a clear understanding of the storage cost of the BESS project in terms of the energy discharged from it.

The per unit cost of the electricity discharged from the BESS project includes (a) Storage cost (Rs/kWh) and (b) the tariff of the electricity used for charging with the RtE.

KSEBL in the petition has submitted that, at the discovered tariff @ Rs 1.81lakh/ MW/ month, storage cost is approximately Rs 3.59/ kWh, however, KSEBL has not submitted supporting documents for such claims.

Without such details, Commission cannot establish the viability of the project.

Hence, the Commission hereby direct that, hence forth, while submitting petitions for approval of the implementation of BESS projects, KSEBL shall provide the details of the per unit tariff of the electricity discharged from the proposed BESS project. At the same time, with a fixed per MW cost for the storage capacity, the storage cost on a per MWh basis varies based on the duration and quantum of actual discharge achieved in a given period. Accordingly, KSEB Ltd shall ensure full utilisation of the discharge cycles as per the guidelines to fully optimise the storage cost. This aspect shall be specifically examined during the annual true up of accounts of KSEB Ltd.

(3) Incentive for early commissioning

(i) Commission noted that, as per the concluded bidding documents and agreements, the Scheduled Commissioning of the project is within 18 months from the effective date of 08.03.2026. However, in the BESS projects approved on 06.08.2025 in petition OP No. 38/2025, implementing at four substations of KSEBL with a total capacity of 125MW/ 500MWh through NHPC as REIA, the time period allowed from the effective date is 15 months only.

(ii) Commission noted that, the batteries used in the BESS projects are standardised and the lead time required for supplying batteries for the BESS project once orders are placed are very minimal now. Hence the BESS projects of this kind can be completed much ahead of the schedule specified in the bidding documents and agreements between the parties.

(iii) If the BESS project can commission ahead of the schedule, it will be much beneficial for the buying entity, which has been purchasing power during peak hours at excessive rates from short term market and power exchanges.

(iv) Considering these aspects, Commission during the hearing held on 26.03.2026 has directed KSEBL to look in to the feasibility of providing incentives for early commissioning of the projects. However, KSEBL has submitted the following against providing incentives for early commissioning

"Scheduled Commissioning Date (SCD) of the project is 07.09.2027. Any advancement in commissioning may result in the Commercial Operation Date (CoD) falling during the monsoon months of June–July, during which the comparative operational benefit of BESS is relatively lower due to reduced peak demand conditions.

Further, provision of an Early Commissioning Incentive may introduce uncertainty in the actual commissioning timeline, which could adversely impact KSEBL's peak power procurement planning and contractual commitments. It is also pertinent to note that none of the States allocated BESS capacity under the PSDF VGF scheme have incorporated provisions for early commissioning incentives in their respective bidding documents.
Additionally, the lead time for procurement and installation of critical equipment such as 220 kV transformers is substantial.

Considering these aspects, KSEBL has prudently decided not to provide any incentive for early commissioning of the project."

Commission cannot agree with the proposal of KSEBL. The Commission noted with concern that in monsoon months also, KSEBL has been facing electricity shortages during peak hours. Considering these aspects, Commission hereby direct KSEBL and the BESS developer to look into the possibility of early commissioning through mutual discussion at the top level management of KSEBL, and bring out incentives for early commissioning and penalty for the delay in commissioning the project if any from the date of commissioning.

21. KSEBL shall publish the monthly progress report of this project in the website of KSEBL and a copy to be submitted on or before 5th of the succeeding month to the Commission. Also notify the officer(s) directly responsible for the implementation of the project, with name and designation.

22. With the above observations in paragraph 19 and 21 above, Commission hereby approve the Battery Energy Storage Power Sale Agreement (BESPA) signed between M/s Shreyas Sortex Industries Pvt Ltd and KSEBL dated 09.03.2026.

Order of the Commission

23. Commission after examining the petition filed by KSEBL dated 27.02.2026, deliberations during the hearing held on 26.03.2026, additional affidavit dated 22.04.2026, bidding guidelines for Procurement and Utilization of Battery Energy Storage Systems as part of Generation, Transmission and Distribution assets, along with Ancillary Services' dated 10.03.2022, 'Guidelines for Viability Gap Funding (VGF) Scheme for development of BESS supported through Power System Development Fund (PSDF)'dated 09.06.2025, provisions of the Electricity Act, 2003, other relevant Rules and Regulations in force, Orders the following;

(1) Grant approval to implement the 250MW/ 500MWh grid connected Battery Energy Storage System (BESS) at the 220 kV substation premise at Brahmapuram by utilising the Viability Gap Funding (VGF) under the PSDF component.

(2) Adopt the L1 tariff @ Rs 1,81,000/MW/month quoted by M/s Shreyas Sortex Industries Pvt Ltd, discovered in the tariff based competitive bid,, as per section 63 of Electricity Act 2003, as discussed under paragraphs 16,17 and 18 above.

(3) Approve the Battery Energy Storage Sale Agreement (BESSA) dated 09.03.2026 signed between M/s Shreyas LFP Energy Pvt Ltd and KSEBL with the observations under paragraphs 19 and 21 above.

Petition disposed of. Ordered accordingly.

Sd/-
T K Jose
Chairman

Sd/-
B Pradeep
Member

Approved for issue

Sd/-
Rajendran K. V
Secretary