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भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
आर्थिक एवं वाणिज्यिक मूल्यांकन प्रभाग
Financial & Commercial Appraisal Division

Sewa Bhawan, New
Delhi
Date: 12.01.2026

विषय: केंद्रीय विद्युत विनियामक आयोग (टैरिफ की शर्तें एवं नियम) (द्वितीय संशोधन) विनियम, 2025 के मसौदे पर टिप्पणियाँ-रेग (Comments on Draft Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2025.-reg)

The undersigned is directed to refer to Regulatory Affairs Division, CEA email dated 30th Dec 2025 requesting comments on the **Draft Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2025**. A copy of the final comments forwarded to CERC may be shared with this division.

2. This issues with the approval of Chief Engineer (F&CA), CEA

Ankit
12/01/2026.

(अंकित गोयल)

सहायक निदेशक

Chief Engineer, RA Division, CEA

Annexure-I

Comments of the F&CA division on CERC (Terms and Conditions of Tariff) (Second Amendment)

General:

- i. Tariff Policy mandates competitive procurement of power by distribution licensees. Many distribution licensees are setting up storage capacity, based on competitive procurement framework. As a result of competitive framework adopted by States, storage cost is showing a declining trend in recent times. Integration of Storage based on Section 62 route (cost plus approach) may result into higher cost of storage and would impact the future cost of storage arrived through competitive framework and may burden consumer with additional tariff.
- ii. After installation of integrated energy storage system, Generator will push extra power to the Grid beyond its connectivity during peak hours, due to power stored in ESS. Therefore, the concerned Generator also needs to apply for additional connectivity.
- iii. Useful Life of Energy Storage System is 12 years, whereas useful life of Thermal Power Plants is 25/35 years. There is no clarity on what will happen i) when Energy Storage System has lapsed its useful life, but thermal power plant is yet to complete its useful life, or ii) when thermal power plant has completed its useful life, but Energy Storage System is yet to complete its useful life. Besides, storage will be utilised by distribution companies and if the storage is located near the load centre, then associated transmission losses from storage at grid level to load centre would reduce. Therefore, it would be better to make the option available to the distribution license to opt for grid level storage or distribution level storage. Therefore, instead of having tariff regulations on integrated energy storage system, tariff regulation on energy storage system would give flexibility to end users.

Clause by Clause comments

Draft Regulation	Present Provision	Comments
Regulation 2(2)(2a)	“(2a) These regulations shall also apply in all cases where the coal or lignite or gas- based generating station or inter-state transmission system, installs for storage and supply of electricity from the integrated energy storage system, for the use of the beneficiaries or the designated ISTS customers, as the case may be, whose tariff is required to be	With huge RE capacity addition, there is a need for backing down of thermal stations below technical minimum during solar hours to reduce RE curtailment and maintain grid stability. The draft scheme allows utilisation of thermal power during solar hours, which would other-wise have to be backed down, for charging the Storage system and making available additional power during peak hours.

	<p>determined by the Commission under section 62 of the Act read with section 79 thereof.”</p>	<p>Considering that Storage system will be charged by electricity of the co-located generating station and cost of electricity from gas-based power plant is very high, inclusion of gas-based plants in the draft scheme is not justifiable.</p> <p>Run of the River Hydro Plants without pondage can be used for storing in BESS during off-peak period and using during peak hours. Therefore, integrated Energy Storage Systems may be allowed to be set up with run of the river hydro stations also.</p> <p>Though definition of integrated energy storage system in the draft Regulation allows having a co-located pumped storage system, but the different provisions of draft Regulations consider only BESS as only storage system. Therefore, the same needs to be clarified/</p> <p>The draft Regulation does not provide for determination of tariff for standalone storage system on cost plus basis. Terms and conditions of Tariff Regulations 2024 already allows tariff determination framework for standalone pumped storage system, a particular type of storage system. With integration of huge RE capacity, may need to install BESS to manage their peaking requirement from Grid. Therefore, these draft regulations could be made applicable for stand-alone BESS.</p>
<p>3A (10) and (12)</p>	<p>(10) 'Plant Availability Factor of energy storage system' or '(PAFess)' in relation to an</p>	<p>In order to ensure proper measurement, there should be separate metering for charging,</p>

	<p>integrated energy storage system with generating station for any period means the average of the daily declared capacities during peak hours (DCs) for all the days during the period expressed as a percentage of the installed capacity in MW less the auxiliary energy consumption as per these regulations;</p> <p>(12) 'Round trip efficiency of integrated energy storage system' or 'RTE(ess)' in relation to a period means the quantum of energy delivered by the integrated energy storage system of the generating station or the transmission system as a percentage of the energy supplied for charging the integrated energy storage system which shall be higher of 85% or actual during the month</p>	<p>discharging and auxiliary consumption as per CEA metering regulations. This will ensure verification of actual RTE and Auxiliary Consumption.</p> <p>Round Trip Efficiency for Lithium Ion batteries are more than 90%. Therefore, normative Round Trip Efficiency could be kept as 90%.</p>
<p>Regulation 11 (2), Regulation 29(B)(1)</p>	<p>11(2) The generating company or the transmission licensee, undertaking any additional capitalization on account of integrated energy storage system, for a generating station or a sub-station, as the case may be, may file petition for in-principle approval for incurring such expenditure after prior notice to the beneficiaries or the long-term customers, as the case may be, along with underlying assumptions, estimates and justification for such expenditure.</p> <p>29 (B) (1) A transmission licensee required to incur additional capital expenditure in the existing transmission system for an integrated energy storage system shall share its proposal with the concerned Regional Power</p>	<p>Unlike Generation, Transmission is licensed activity. Inter State Transmission System is planned by Central Transmission Utility and approved by MoP/NCT/CTUIL as per delegation of power. While approving, the consent of beneficiaries is also taken.</p> <p>Therefore, proposal for installation of energy storage system in ISTS system should be initiated by CTUIL, and not by transmission licensee, and the same should be approved by MoP/NCT/CTUIL, as the case may be. Only after approval of competent authority, transmission licensee can file application for in-principle approval/intimation before taking up capital expenditure.</p>

	Committee, Central Transmission Utility, and the concerned Regional Load Despatch Centre.	
Regulation 29 (A)	<p>“29A (1). Additional Capitalization on account of an integrated energy storage system with the generating station : (1) A generating company required to incur additional capital expenditure in the existing generating station for an integrated energy storage system shall share its proposal with the beneficiaries and file a petition for approval before undertaking such additional capitalization</p> <p>29 (A)(3) Where the generating company makes an application for approval of additional capital expenditure for installation of integrated energy storage system, the Commission may grant in-principle approval after due consideration of the reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission.</p>	<p>There is no subjective criteria defined in the draft Regulations, based on which Commission will grant in-principle approval of the generating company for incurring additional capital expenditure for integrated energy storage system. In the absence of the same, there will be discretion in the decision-making process.</p> <p>In case bulk of the beneficiaries do not agree with the proposal, the proposal should not be approved by CERC. Besides, if any beneficiary does not approve the additional capitalisation, it should not bear cost/tariff of such standalone storage.</p>
29(B)(5)(a)	The integrated energy storage system for exclusive use of strengthening reliability of the grid operation or deferring investment of the transmission system or efficient operation of the power system, where the cost will be recovered through CERC	<p>Usage of storage in transmission as per Section 62 route should be allowed for strengthening reliability of the grid operation or deferring investment of the transmission system or efficient operation of the power system.</p> <p>Use of storage as other business in ISTS should come through</p>

	(Sharing of transmission charges) Regulations, 2020; Provided that where the integrated energy storage system is to be installed to provide storage services as other businesses, the same will be governed through the Central Electricity Regulatory Commission (Sharing of Revenue Derived from Utilization of Transmission Assets for Other Business) Regulations, 2020	competitive bidding route and not through Section 62 route. Therefore, the proviso may be deleted.
Regulation 32(5),	<p>“Provided also that if the generating company or the transmission licensee, as the case may be, has availed a part or entire loan from a related party at a higher rate of interest than the rate of interest charged by other financial or lending institutions not classified as related party, the rate of interest shall be —</p> <p>a) the weighted average rate of interest calculated based on the existing loan portfolio, excluding the part of the loan availed from a related party;</p> <p>b) lower of actual or 1-year SBI MCLR plus 180 basis points, where the entire loan is availed from a related party; and</p> <p>c) reduced by restructuring or re-financing the loan within a period of one year from the date of commercial operation for the new project or from the date of notification of this regulation for the existing project.</p>	<p>This provision should be aligned with the provision of interest on loan for emission control system as provided in the Principal Regulations, which is as under:</p> <p>“The rate of interest on the loan for the installation of the emission control system commissioned subsequent to date of commercial operation of the generating station or unit thereof, shall be the weighted average rate of interest of the actual loan portfolio of the emission control system, and in the absence of the actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered, subject to a ceiling of 14%;</p> <p>Provided further that if the generating company or the transmission licensee, as the case maybe, does not have any actual loan, then the rate of interest for a loan shall be considered as 1-year MCLR of the State Bank of India as applicable as on April 01, of the relevant financial year. “</p>
Regulation 33(13)(b):	(b) If an existing generating station or transmission system in which the integrated energy	(1) Rates specified in Appendix-I to the principal regulations only specify depreciation for batteries as 9.5% and

	<p>storage system is installed is yet to complete its useful life, the depreciation shall be computed annually from the date of operation of the integrated energy storage system based on the straight-line method at rates specified in Appendix-I to these regulations;</p> <p>Provided that the unrecovered depreciation as on 31st March of the year closing after a period of 12 years from the date of operation of such integrated energy storage system shall be spread over the higher of the balance operational life of the integrated energy storage system or the generating station, or the transmission system, as the case may be."</p>	<p>not for energy storage system. The same needs may be indicated</p> <p>(2) Depreciation of the ESS should be linked with its life. As beneficiaries of a generating station may change in future, new beneficiaries may be burdened with depreciation of an asset they did not use.</p>
<p>Regulation 34(1)(e):</p>	<p>"(e) For an integrated energy storage system of coal or lignite-based thermal generating stations or the transmission system:-</p> <p>(i) Receivables equivalent to 45 days of the supplementary tariff of an integrated energy storage system;</p> <p>(ii) Maintenance spares @ 20% of operation and maintenance expenses and</p> <p>(iii) Operation and maintenance expenses for one month."</p>	<p>Generating Company is already getting interest on working capital on receivable for 45 days at normative PLF. Part of energy generated by Generator will be stored in Energy Storage System and will be sold to beneficiaries during peak hours. Allowing separate receivables component for the same energy sold through energy storage system may therefore lead to duplication of working capital allowance, which is improper. Therefore, Receivables equivalent to 45 days of the supplementary tariff of an integrated energy storage system may be deleted.</p>
<p>Regulation 36(4):</p>	<p>"(4) Integrated Energy storage system: The operation and maintenance expenses on account of integrated energy storage systems in coal or lignite-based thermal generating stations or the transmission system, as the case may be, shall</p>	<p>Based on discussions with developers, it is observed that during the initial years of operation, O&M activities for integrated energy storage systems are generally covered under OEM warranty and comprehensive service agreements, and therefore do</p>

	<p>be 2% of the admitted capital expenditure (excluding IDC and IEDC) as on the date of commercial operation, which shall be escalated annually @ 5.25% during the first two years of operation;</p>	<p>not experience material year-on-year cost escalation.</p> <p>Further, even in cases where O&M is undertaken by the developer beyond the warranty scope, the escalation in O&M expenses is typically in the range of 2%–4%, broadly aligned with general inflation.</p> <p>Therefore, it is suggested that the O&M for first year may be considered as 1%, instead of 2% and escalation may be considered as 4%, instead of 5.25%.</p>
<p>Regulation 36(1)(6)</p>	<p>“Provided further that the Ash Transportation Expenses incurred by the thermal generating stations toward supply of ash for the construction of road and flyover embankments, shoreline protection structures in coastal districts, dams, or filling of the mine void shall be allowed to be recovered from the beneficiaries on a monthly basis after adjustment of revenue generated, subject to the following conditions:-</p> <p>a) submission of the Auditor Certificate towards monthly expenditure towards fly ash transportation expenses, and a certificate of delivery from the users of fly ash;</p> <p>b) award of fly ash transportation contract through transparent competitive bidding;</p> <p>c) the monthly fly ash transportation expenses allowed shall be subject to true-up at the end of the tariff period; and</p> <p>d) surplus revenue after adjustment of ash transportation expenses shall be treated as Non-tariff income.”</p>	<p>Beneficiaries have to pay ash transportation expenses, after adjustment of revenue earned from sale of ash. It means, if there is no revenue earned from sale of ash, beneficiaries have to pay the entire transportation expenses. Therefore, as a natural justice, if there is net income by the generating company from sale of ash after adjustment of transportation expenses, the beneficiaries should get the entire income.</p> <p>In order to motivate generator to make effort for sale of ash, and to balance beneficiaries' interest, it is proposed that surplus revenue after adjustment of ash transportation expenses shall be treated as Non-tariff income and to be shared between generator and beneficiaries in the ratio of 1:2.</p>

<p>Regulation 64B</p>	<p>“64B. Computation and payment of supplementary energy charge on account of integrated energy storage system for coal or lignite-based thermal generating stations:</p> <p>(1) The energy charge of the integrated energy storage system shall cover the cost of energy required for charging the integrated energy storage system during charging operation.</p> <p>(2) The energy used for charging the integrated energy storage system shall be arranged from the surplus generation from the associated generating station where the integrated energy storage system is installed or the other generating station or from the open market:</p> <p>Provided that—</p> <p>a) use of integrated energy storage systems by the generating company to maintain the technical minimum of the generating unit and to ensure the continuous supply to the beneficiaries shall have priority;</p> <p>b) where the surplus energy from the associated generating station is not available for charging the integrated energy storage system, energy from the most economical alternate source may be arranged by the beneficiary or the generating company on behalf of the beneficiaries</p>	<p>In case a generator is required to provide peaking support, but did not get schedule below technical minimum, then the RLDC/NLDC requisition the Generating Station as SCUC unit and provide 50% schedule during off-peak hours. Therefore, while approving setting up Energy Storage System by a Generating Company, it first be ascertained that the Generating Station was selected as SCUC in the past.</p> <p>Draft Regulation entails that energy storage system will be charged first from the power generated by co-located generating station, if available. In solar hours, solar power is available at cheaper rate (less than 50%) compared to energy charge rate of thermal generating station, and therefore, it will be wasteful to burn coal and curtail solar power. Therefore, provision should allow storage of power from most economical sources (from co-located generating station, other generating station with same beneficiaries or market). The Generator should be made responsible for arranging the cheapest/economical power for charging.</p>
<p>64B(4)(b), (c) and (d)</p>	<p>(4) The supplementary energy charge rate on account of the integrated energy storage system shall be worked out based on the source from where the electricity is procured</p>	<p>In case charging of Energy Storage System is done from another generating station or market, then the power will incur transmission losses, and the same needs to be accounted in the formula.</p>

	<p>for charging the integrated energy storage system in the following manner:</p> <p>b) Allocated share of beneficiaries from another generating station whose tariff is determined by the Commission: $(SECR_{ess} \text{ in Rs/kWh}) = (ECR \text{ in Rs/kWh}) / [\text{Maximum (Normative Round-trip efficiency (RTE}_{ess}), \text{Actual Round trip efficiency)} \times (1 - AEC_{ess})]$</p> <p>c) Charging from another generating station whose tariff is approved by the Commission: $(SECR_{ess} \text{ in Rs/kWh}) = [(ECR) + (CC)] \text{ in Rs/kWh} / [\text{Maximum (Normative Round-trip efficiency (RTE}_{ess}), \text{Actual Round trip efficiency)} \times (1 - AEC_{ess})]$</p> <p>d) Charging from procuring electricity from the open market or any other source: $(SECR_{ess} \text{ in Rs/kWh}) = (\text{Discovered Tariff in Rs/kWh}) / [[\text{Maximum (Normative Round-trip efficiency (RTE}_{ess}), \text{Actual Round trip efficiency)} \times (1 - AEC_{ess})]$</p>	
70 (FF)(c)	<p>c) Auxiliary Energy Consumption of integrated energy storage system (AEC_{ess}) shall be 5% of the input energy supply to an integrated energy storage system or the transmission system, as the case may be.</p>	<p>The internal losses of the ESS are already taken care of in Round Trip Efficiency. The remaining losses will only be on account of losses in transformer, and lines, which will be no more than 1%. Therefore, auxiliary energy consumption for Integrated Energy Storage System may be kept as 1% instead of 5%.</p>
101(A)	<p>Special Provisions relating to Regulatory Sandbox: To scale up research, development, and innovation (RDI) in power sector</p>	<p>Present concept allows funding of new ideas through tariff from beneficiaries, but did not elaborate if this idea gains commercial maturity, how the gain will</p>

	<p>relevant for energy security and self-reliance, the generating company or the transmission licensee, or the company whose tariff or input price determined under these Regulations shall be eligible to participate in the Regulatory Sandbox for undertaking innovation and research projects in the power sector, with prior approval of the Commission, and the additional cost on this count shall be allowed up to 0.5% of annual fixed cost or ₹100 Cr, whichever is less</p>	<p>be shared with beneficiaries. In the absence of such clarity, it will lead to socialisation of losses and privatisation of profit.</p> <p>There are already identified mechanism for promoting R&D identified by Central Government. Promoting research is not within the scope of functions envisaged for Central Electricity Regulatory Commission under the Act.</p> <p>The proposal allows funding of research initiatives through regulated tariff mechanism from beneficiaries and bears risk which is ultra vires the role of ensuring economic use of resources, optimum investments and safeguarding consumer interest envisaged under Section 61 of the Act.</p> <p>Therefore, this amendment is not required.</p>
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