Ref: HFE/CERC/DSM-X/R&C/FY25-26/03 16th October 2025

To
Shri Harpreet Singh Pruthi
Secretary Central Electricity Regulatory Commission,
6th, 7th & 8th Floors, Tower B, World Trade Centre,
Nauroji Nagar, New Delhi- 110029

Subject: Comments/Suggestions on proposal in petition no. 9/SM/2025 (Sou-Motu) for determination of value of "X" for computation of the deviation (in %) for Wind and Solar (WS) Sellers from 01.04.2026 onwards under the provisions of the CERC (DSM) Regulations, 2024.

Dear Sir,

At the outset, we extend our gratitude to the Hon'ble Central Electricity Regulatory Commission for issuing the proposal in petition no. 9/SM/2025 (Suo-motu) for determination of value of "X" for computation of the deviation (in %) for Wind and Solar (WS) Sellers from 01.04.2026 onwards under the provisions of the CERC (DSM) Regulations, 2024 and seeking stakeholder's comments on the same.

We would like to introduce 'Hero Future Energies Private Limited' (HFEPL), the renewable energy arm of Hero group and an Independent Power Producer (IPP) primarily focusing on investment in developing the generating capacities based on solar and wind resources across the country. The HFEPL portfolio has around 1.8 GW of commissioned capacity and around 6 GW under various stages of development.

Hero Future Energies Private Limited hereby submits its suggestions/comments on proposal for 'determination of value of "X" for computation of the deviation (in %) for Wind and Solar (WS) Sellers from 01.04.2026 onwards under the provisions of the CERC (DSM) Regulations, 2024' and same are attached as **Annexure-I** to this letter. We humbly request CERC to consider our suggestions while finalizing the amendments to the mentioned Regulations.

We respectfully submit these suggestions/comments for CERC's consideration.

For Hero Future Energies Pvt. Ltd.

Hero Future Energies Pvt. Ltd. New Delhi

Authorized Signatory
Anchal Kumar

Enclosure: As above.

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Annexure I

Comments on CERC Draft Order in Petition No. 9/SM/2025 on Determination of 'X' Factor

1. Applicability Must Be Prospective and Linked to Bidding Date

The proposed implementation of the X factor from 01.04.2026 must be strictly prospective. Applying such commercially significant changes to projects already commissioned, bid out, or under construction—which have committed tariffs, financial closures, and contractual structures—would result in retrospective impact, violating the principle of regulatory certainty. This would amount to a de facto Change in Law (regulatory changes with commercial impact are not covered under section 63 projects) without recourse to compensation, eroding investor confidence and threatening financial viability.

Instead of linking the X factor to the commissioning date, it should be linked to the bid submission date. This principle is increasingly being reflected in recent PPAs, where bid date is treated as the effective cut-off for recognizing regulatory changes. Any regulation with financial or performance consequences must align with this widely accepted principle.

2. Phase-Wise Application for New Projects

While aligning RE deviation framework with conventional generators may be a long-term goal, such transformation must account for evolving technology, operational realities, and financial risk profiles. Hence, the X factor—intended to gradually shift deviation calculation from "Available Capacity" to "Scheduled Generation"—should follow a **phase-wise reduction** even for new projects, bid out after 01.04.2026.

For both legacy and future projects, the X factor should follow a uniform trajectory:

- 100% from FY 2026-27
- Decreasing by 10% every year
- Reaching 0% from FY 2036-37 onwards

This phased approach provides a calibrated transition while preserving investment viability, especially in a sector still maturing in forecasting infrastructure and grid participation rules.

3. Sample Size and Data Window of the DSM Impact Study Are Statistically Inadequate

The core basis of the X factor proposal—a simulation conducted by Grid-India on **16 plants (6 solar, 6 wind, 4 hybrid)** covering **only 41 weeks**—is too narrow to justify such a significant policy shift. The total capacity studied (about **1.8 GW**) represents a **minute fraction** of India's RE capacity for which LTA/GNA is already effective). Framing it in perspective, following table may be referred for the capacity of Solar and Wind in India:

	Capacity in GW where LTA/GNA is already operational		
Region	**NR**	**SR**	**WR**
Solar	12.9	2.05	2.3
Wind		1.75	5
Hybrid	0.4		
Total	**13.3**	**3.8**	**7.3**

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	Capacity in GW where GNA has been made effective in 2024 & 2025 (upto Sep'25)		
Region	**NR**	**SR**	**WR**
Solar	113	22	46.71
Wind		28.4	38.6
Hybrid	2.43	28.44	45
Total	**115.43**	**78.84**	**130.31**

The table clearly indicated the massive capacity that we are looking vis-à-vis capacity that has been studied. The study fails to include the diversity of generation technologies, geographical variability, and seasonal effects.
A robust, evidence-based policy should be grounded in:

- **Minimum 3-5 years of operational data at ISTS level depending on the date of commissioning**
- Broader plant diversity (age, tariff band, regional spread)
- Transparent details on plant commissioning timelines, tariff structures, and CUF profiles

Without this, the financial loss projections and the justification for shifting to schedule-based DSM computation are fundamentally weak.

4. Lack of Additional Assessments And Scenarios

It is to be noted that CERC has not provided detailed calculations assuming historical capacity with same level of scheduling and forecasting for ascertaining the impact as under:

Category	Scenario	DSM Band Type	Aggregation	Phased 'X' Factor	Phase wise Revenue impact (in %)
Existing plants	DSM 2024 (w.e.f. 01st Apr 26 with aggregation)	DSM 2024 w.e.f. 01.04.2026	Yes	Yes, with phases till 31.03.2031 as proposed under 'X' factor draft	Not provided
New Plants i.e. commissioned post 01.04.2026 but bid out prior to 01.04.2026	DSM 2024 (w.e.f. 01st Apr'26)	As per DSM 2024 w.e.f. 01.04.2026	Yes	Yes with phases till 31.03.2031 as proposed under 'X' factor draft	Not provided

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New Plants bid out after 01.04.2026	DSM 2024 as General Sellers	As per DSM 2024 w.e.f. 01.04.2026	Yes	Yes with X' as 0%	Not provided

Without ascertaining the nuanced data analysis, it is not possible to gauge the actual impact of the DSM on the projects. Once, it is done, it is possible to calibrate the 'X' factor along with localized weather variability, project tariff, regional capacity variation etc. **Further there should be periodic yearly review of 'X' factor basis same principles.**

5. No Consideration of Weather Uncertainty and Regional Forecasting Limitations

The DSM formula assumes uniform forecast accuracy across all RE generators. This ignores regional weather volatility and scientific limitations. For instance:

- Radiation forecasting error can be ~**5%** even with good models.
- Wind forecasting error can range from **8-10%**, particularly in coastal and hilly areas.

This unfairly penalizes generators located in regions with **natural weather variability**, regardless of the forecasting accuracy they achieve. Unless deviation thresholds are weather-sensitive or region-adjusted, the system becomes **discriminatory** in practice. The previous formula without 'X' used to take care of the local weather variabilities.

6. Forecasting Accuracy Has Not Improved to Justify Tighter Penalties

CERC assumes forecasting capabilities have matured significantly since 2017. However, IMD and NCMRWF — in recent forums (e.g., NLDC Workshop, May 2024 and IMD RADAR training, May 2024) — have clearly acknowledged that:

- Current forecasting technologies are still evolving.
- Errors remain significant despite adoption of AI/ML techniques by QCAs.

Moreover, no measurable improvement in accuracy has been seen over the last five years. Ground realities such as lack of local sensors, delayed AWS rollout, and low radar coverage still persist. Therefore, implementing a tightening glide path before maturity of supporting infrastructure is unjustified.
It is recommended that the **applicability of X factor should be deferred by at least one year after full-scale implementation of CEA-specified AWS infrastructure, CEA-Grid India-NCMRWF report on weather forecasting for renewable energy and real-time forecasting integration across all RE regions.**

7. Tariff Sensitivity Has Been Ignored in Financial Impact Calculations

The study compares DSM losses only as a percentage of PPA tariffs, ignoring the absolute cost base, debt service commitments, and tariff maturity differences. Projects with low tariffs (e.g., ₹2.50/kWh) are hit disproportionately harder (in percentage terms) than legacy projects with higher tariffs (₹4-5/kWh), even for the same quantum of deviation.
Such treatment discourages competitive bidding and creates an implicit bias in favor of older assets, which is counterproductive to the sector's long-term goals.

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8. Aggregation Benefits Are Unequal and Exclude Small Developers

While aggregation through QCAs can reduce DSM losses by **20-60%**, there are **no clear rules** for:

- How QCAs are to be constituted?
- Whether developers connected having multi-located substation in different geographies can aggregate?
- How financial benefits of aggregation are to be shared?

Large developers with diversified portfolios can easily form QCAs, while smaller developers or single-project IPPs are structurally excluded. This will deepen inequality within the RE sector and disincentivize small-scale participation.
CERC must formulate guidelines for equitable QCA formation, mandating:

- Open access to QCA structures,
- Clear benefit-sharing protocols, and
- Support for smaller players through regulatory sandboxing or pooled aggregation.

9. X Factor Reduction Will Amplify Penalties During Low-Generation Periods

Reducing "X" from 100% in 2026 to 0% by 2031 shifts deviation calculation from Available Capacity to Scheduled Generation. As "X" decreases, the base becomes smaller, so the same deviation looks larger in percentage terms — especially during low wind or solar periods when generation is minimal.

DSM penalties will rise each year, and generators may face extra penalties during low-resource hours, even though such deviations have little effect on grid stability.

10. Denial of Payment for Over-Generation During High Frequency is Unjustified

The new rule proposes **zero payment for injection at frequencies ≥50.05 Hz**, irrespective of plant behavior being within CEA's prescribed frequency operating range (49.5–50.5 Hz). RE plants already adhere to CEA's Technical Standards, and the current injection behavior does not violate safety limits.
This rule, therefore:

- Unjustifiably curtails revenue,
- Breaks the balance between over- and under-generation compensation (earlier revenue-neutral),
- Imposes an **asymmetric penalty** system, further compounding DSM losses by up to **35%** for some developers.

CERC must withdraw this proposal or limit its application only to frequencies **above 50.2 Hz**, supported by clear grid disturbance data.

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11. Summary of Recommendations

Issue	Recommendation
Applicability	Restrict X factor to projects **bid after 01.04.2026** only
Rollout	Implement X in **phases from FY 2026-27 till 10 years**
Data Sample	Base policy on **3-5-year multi-region data with large capacity sample size from each region**, not 41-week simulation
Weather Uncertainty	Introduce **region-sensitive bands** or thresholds
Yearly Review	Introduce mechanism and principles of **yearly review of 'X' factor**
Forecasting Maturity	Defer X implementation till **one year** of CEA-AWS infra implementation & CEA weather forecasting report is issued
Tariff Sensitivity	**Calibrate penalties** to project cost or tariff bands
Aggregation Rules	Issue **guidelines for QCA formation and fair access**
Low Gen Penalties	Introduce **zero-penalty periods during low-gen hours**
High Frequency Rule	**Reinstate payment** for over-injection within CEA band

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