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To,

Shri Harpreet Singh Pruthi
Secretary
Central Electricity Regulatory Commission (CERC)
3rd & 4th Floor, Chanderlok Building
36, Janpath, New Delhi – 110001

Date: 17.10.2025

Subject: Submission of Comments on Draft Order in Petition No. 09/SM/2025

Dear Sir,

We thank the Hon'ble Commission for the opportunity to submit our comments on the Draft Order issued in Petition No. 09/SM/2025 concerning the provisions of the CERC Deviation Settlement Mechanism (DSM) Regulations, 2024. We appreciate the consultative approach adopted by the Commission and acknowledge the importance of evolving regulatory frameworks to support grid discipline and renewable energy integration.

In this regard, please find enclosed our detailed comments and suggestions for your kind consideration. These comments reflect our analysis of the proposed changes, including the narrowing of tolerance bands, the phased reduction of the 'X' factor, and the broader implications for renewable energy generators. We trust that our inputs will assist the Commission in finalizing a balanced and equitable regulatory framework that supports both grid reliability and the continued growth of renewable energy in India.

Yours sincerely,

For and on Behalf of ACME Solar Holdings Limited,

ACME SOLAR HOLDINGS LIMITED

Tushar Goyal
Vice President

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ACME's Comments in Draft 09/SM/2025 Order

A. Summary of CERC's Key Proposals in Draft 09/SM/2025:

1. Narrowing of Tolerance Bands:
   CERC proposes tightening of deviation bands for renewables: solar and hybrids will move from ±10% to ±5% and wind from ±15% to ±10%, starting 01.04.2026.
2. **Phased Reduction of 'X' Factor:**
   The denominator for deviation calculations will gradually shift from "available capacity" to "scheduled generation," reducing the X factor from 100 (2026-27) to 0 (2031).
3. **Treatment of WS Sellers at par with General Sellers from 01.04.2031 onwards:**

   All existing WS projects to be treated at par with general sellers from 01.04.2031.
4. **New WS projects** with bids submitted **on or after 01.04.2026** to be treated at par with conventional generators immediately.
5. **No payment** for over-injection during grid frequency ≥ 50.05 Hz

B. Detailed Comments with In-Depth Rationale

1. Retrospective Application Should Not Be Allowed

Comment:
The narrowed revenue neutral tolerance bands and X factor trajectory should apply only to projects prospectively, not retrospectively.

Rationale:
The existing ±10% DSM tolerance band is already quite stringent, and currently, there is a lack of technology that can reliably ensure compliance with even narrower bands. When these projects were bid and tariffs determined, developers considered the DSM Penalty applicable as on date of bid submission. Retrospective application of such tightened bands and proposed value of X factor would expose projects to unexpected financial liabilities beyond their approved tariff models and operational plans, threatening viability and regulatory certainty.

Additionally, as developers while executing their projects of Solar and Wind configuration did not envisage such narrow bands. Therefore, retrospective application would expose such projects to unforeseen financial liabilities that their approved tariffs and operating models do not accommodate and, risking project viability and undermining regulatory certainty. Upholding investor confidence and fair regulatory practice requires prospective application of DSM tightening solely to future projects, in line with sector norms. The existing band of +/-10% is quite strict and there is a dearth of technology that can comply with narrower band limits.

It is humbly submitted that the Electricity Act, 2003 does not contemplate retrospective regulatory actions, and applying new financial liabilities ex post facto would breach natural justice, harm investor confidence, and undermine financing closed on earlier terms. Historical precedents of the Commission and sector norms both support the principle that only future projects should be subject to tightened

DSM parameters, thereby protecting project viability and the sector's reputation as a stable investment destination.

2. Absence of Adequate Forecasting Technology/RE's Infirm Nature

Comment:
Wind and solar's inherent variability and current limitations of forecasting technology make it impossible to achieve such narrow bands and other strict compliances such as change in deviation band with introduction of X factor. Availability of technology is something which is beyond developers control and hence introduction of such stricter norms without appropriate technology in place is unfair for RE industry.

Rationale:
Renewable energy generation, particularly wind and solar, is fundamentally dependent on highly variable and intermittent meteorological conditions, unlike conventional thermal power that is dispatchable and controllable. Despite rapid technological advancements, forecasting tools available today still face significant limitations in accurately predicting renewable output at short time scales necessary for DSM compliance. These challenges stem from the complex and dynamic nature of weather phenomena such as cloud cover, wind turbulence, and rapid meteorological changes which are difficult to forecast with high precision over 15-minute time block. Furthermore, data quality issues—ranging from sensor errors to missing records—complicate model training and prediction accuracy.

While new RE projects may adopt better forecasting and digitalization technologies upfront, the technology is not yet mature or uniformly available across the market to guarantee reliable output within the narrowly prescribed bands. Regional microclimates, terrain complexity, and the inherent stochasticity of weather patterns introduce variability that cannot realistically be eliminated even with best efforts. Moreover, many developers, especially smaller or emerging market players, currently lack access to cutting-edge forecasting infrastructure or resources to manage such compliance rigorously.

Thus, Effective regulation must balance enforcement with enabling compliance to drive real improvements. Without proactive measures—such as mandating sector-wide pilot projects, collaboratively developing advanced forecasting models, or providing targeted financial and technical support—simply tightening DSM bands functions primarily as a penalty mechanism. This approach primarily shifts financial burden to generators without addressing root causes of deviations or building sector capacity. A forward-looking regulatory environment combines clear, achievable targets with incentives, operational pilots, and dedicated support for technology adoption and innovation. Such a holistic strategy encourages sustainable improvements in forecast accuracy, grid integration, and market functioning, fostering confidence and growth in India's renewable energy sector.

3. Insufficient Sample Size and Study Period

Comment:
The normative parameters for DSM and X factor should not be derived from a study covering only 16 projects and a 41-week period.

Rationale:

The normative parameters for DSM and the X factor should not be established based on a study encompassing only 16 projects over a relatively brief 41-week period. Because renewable energy generation is highly influenced by seasonal and inter-seasonal variations as well as geographic diversity, observations from such a limited sample size and period cannot capture the full spectrum of variability inherent in India's renewable landscape. Key meteorological phenomena, such as monsoonal changes, extreme weather events, and longer-term resource fluctuations, require broader temporal coverage to be meaningfully incorporated into regulatory models.

Moreover, the short duration and narrow project scope risk overlooking operational patterns and forecasting challenges that emerge only over extended periods or across different regions. This could lead to normative parameters that are not truly reflective of actual project conditions or that fail to anticipate periods of higher variability, potentially resulting in disproportionate penalties. Comprehensive, expansive studies covering more projects and longer time frames are crucial to formulating DSM regulations that are equitable, robust, and aligned with the operational realities of India's renewable energy sector.

4. Lack of Scientific Support or Technological Roadmap

Comment:

The draft order doesn't introduce scientific measures or a clear roadmap to improve forecasting technology or sector operational maturity, instead focusing on stricter penalties and thus becoming Penalizing Regulation and not aligning with the growth of RE Sector.

Rationale:.

The draft order lacks adequate support for renewable energy developers as it does not propose any initiatives or strategies aimed at improving forecasting technology or enhancing operational maturity. The study conducted by Grid India, which informs the draft, also fails to include any scientific recommendations or proposals to improve scheduling accuracy. As a result, the DSM regulations risk becoming a purely penal mechanism rather than a tool that facilitates growth and sustainability of the renewable energy sector. This focus on penalties without supportive technological measures creates commercial challenges for projects, negatively impacting their viability and investor confidence. Instead of promoting sectoral advancement, the draft order inadvertently imposes financial burdens, which could slow down the expansion of renewable energy capacity critical to India's energy transition goals.

5. Requirement for Grid India-Led Pilot Project Compliance for assessment as to whether such stricter norms can be even met

Comment:

Grid India should be directed to run demonstrative pilot projects under the new DSM and X regime before sector-wide implementation and basis the results, the same be shared for public consultation and thereafter amendment of regulations.

Rationale:

The Central Electricity Regulatory Commission must direct Grid India to undertake a pilot project to implement and demonstrate compliance with the proposed narrowed deviation tolerance bands and

phased reduction of the X factor. A Grid India-led pilot would provide an informed, practical benchmark for the sector, validating the feasibility and fairness of the new regulations. This initiative would help

identify operational hurdles, data gaps, and technology limitations before the rules become binding on private entities, thereby fostering stakeholder confidence and facilitating a smoother, evidence-based transition to tighter DSM norms.

6. Grandfathering of Existing Projects

Comment:
RE projects whose bids are submitted prior to notification of amendment must be exempted from new DSM frameworks ("grandfathered"), or at least safeguarded via an adjustment/transition mechanism.

Rationale:
Older wind and solar projects were implemented, commissioned and financed based on prevailing norms, project finance structures, and tariff frameworks that did not envisage the stringent grid discipline and financial liability that the new DSM framework imposes. These projects typically optimized their risk profile, debt covenants, and return expectations in the context of those regulatory conditions. Sudden imposition of tighter DSM norms can also increase uncertainty and perceived regulatory risk among investors and lenders, thereby elevating the cost of capital for future projects and potentially slowing new renewable energy capacity additions, which is counterproductive to India's climate and energy goals.

Grandfathering or transition mechanisms are internationally recognized best practices that balance regulatory policy evolution with protection of past investment. They provide a stable, predictable environment wherein past projects are shielded from unexpected policy-driven financial burdens while still encouraging ongoing sector modernization over time. Without these protections, existing projects may face curtailment or financial distress due to liability under new penalties, adversely affecting grid stability and power availability.

This approach aligns with principles of fairness and legal predictability embedded in the Electricity Act and reflects established norms in Indian regulatory jurisprudence to prevent retroactive disruption of legitimate commercial expectations. Clear grandfathering maintains stakeholder confidence in the market and supports the long-term sustainability of India's renewable energy momentum by ensuring prior investments remain economically viable.

7. Unfairness in Treating New RE Bids (from 01.04.2026) at Par with Conventional Plants

Comment:
Imposing full DSM equivalence for new projects starting 01.04.2026 ignores fundamental operational differences between renewables and conventional sources will increase Tariff of Renewable Energy as the higher DSM Penalty will be factored -in.

Rationale:
Imposing full DSM equivalence for new renewable energy projects commencing from 01.04.2026

overlooks fundamental operational differences between renewable and conventional power sources. Unlike thermal plants, renewables such as wind and solar being infirm in nature as they are inherently variable and weather-dependent, leading to higher forecasting uncertainties and deviations. Consequently, subjecting these projects to the same stringent DSM penalties as conventional generators significantly increases their financial exposure.

These elevated DSM penalties directly translate into higher operational costs for renewable projects. Developers will inevitably factor these increased costs into their power tariffs to maintain financial viability. This tariff escalation could reduce the competitiveness of renewable energy, potentially slowing investment and capacity expansion at a time when India aims to accelerate its clean energy transition. Therefore, regulatory frameworks must account for these operational nuances and balance grid stability with realistic, technology-driven penalty structures to avoid unintended economic burdens on renewable developers.

8. Need for Distinct X Factor for Wind and Solar

Comment:
The X factor must be different for wind and solar projects—ideally, be dynamically determined, or at the very least, differentiated.

Rationale:
Wind resources are far more variable and less predictable than solar insolation. Assigning a single X to both does not reflect ground realities and will disproportionately penalize wind projects, as shown by the higher recorded revenue impacts in sector studies. This could ultimately lead to underperformance, contract disputes, or withdrawal from future bidding by wind developers, undercutting larger RE capacity addition targets.

Wind and solar energy projects exhibit distinct generation profiles and forecasting challenges. Empirical data indicates that wind projects are more susceptible to deviation-related losses due to higher variability and forecasting complexity compared to solar projects. In light of this, developers propose that differentiated timelines or weighted "X" values be considered under deviation settlement frameworks to reflect the inherent variability of each resource type.

Furthermore, regional meteorological diversity significantly impacts forecasting accuracy. Areas with complex terrain or volatile weather patterns face greater forecasting challenges, which should be factored into regulatory mechanisms. A uniform approach may inadvertently disadvantage projects in such regions. Therefore, a location-sensitive and resource-specific framework is recommended to ensure equitable treatment and to support the growth of diverse renewable energy sources across geographies.

9. Regional Variation Must Be Accounted For

Comment:
A uniform national DSM/X policy overlooks major state-wise and regional variations in wind and solar resource quality and grid integration capability.

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Rationale:

Across India, wind and solar power generation varies significantly by region and season, with states like Rajasthan and Gujarat experiencing high insolation levels leading to more consistent solar output, while coastal states such as Tamil Nadu and Andhra Pradesh benefit from higher wind speeds, supporting robust wind power. Seasonal changes further influence generation patterns; for instance, wind speeds tend to peak during monsoon months, whereas solar output is higher in dry, sunny periods.

Given these spatial and temporal heterogeneities, DSM mechanisms must incorporate regional and seasonal factors to fairly and accurately calculate deviation penalties. A uniform value of 'X' applied across all regions risks penalizing generators in more variable or less predictable resource zones, potentially hindering investments and destabilizing project economics.

Calibrating value of 'X' to reflect these variations ensures that DSM charges are proportional to the natural variability and resource availability specific to each region and season, thereby supporting equitable regulatory treatment and promoting sustained renewable energy growth in diverse Indian states.

Renewable energy generation, particularly from solar and wind sources, is inherently subject to **meteorological variability that cannot be entirely mitigated, even with advancements in forecasting technologies**. Given this intrinsic uncertainty, it is imperative that developers be granted continued reasonable relaxations and buffer tolerances, especially during the initial operational years (2026–2030). This approach would ensure fair treatment of renewable energy projects by accounting for unpredictable weather-related deviations that are beyond the control of project developers.

It is requested that Hon'ble CERC to expand the scope of study on the basis of regional, spatial, and seasonal variation across the four directions of the country and also consider increasing sample size before issuing the value of 'X' for calculation of DSM Penalty.