17.10.2025

To,

The Secretary,

Central Electricity Regulatory Commission,

6th, 7th & 8th Floors, Tower, World Trade Centre

Nauroji Nagar, New Delhi – 110029

Re: Comments/objections in respect of proposal issued by CERC 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 Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) Regulations, 2024- Regarding" ("***DSM Proposal, 2025***")*

Dear Sir,

We, KPI Green Energy Limited, is a public limited company incorporated on 01.02.2008 under Section 3 (iv) Companies Act, 1956, presently having its registered office at KP House, Near KP Circle, Opp. Ishwar Farm Junction BRTS, Canal Road, Bhatar, Surat - 395017, Gujarat, India. The company operates in the solar and hybrid energy sector, specializing in the generation of solar and wind-solar hybrid power. With a strong focus on clean energy, it functions across multiple business verticals. The company develops, constructs, owns, operates, and maintains solar and wind-solar hybrid power projects, both as an Independent Power Producer and as a service provider to Captive Power Producers.

This Hon'ble Commission has proposed following amendments to DSM Proposal, 2025:

1. **Proposed Amendments**

A. DSM Proposal, 2025 proposes to make following amendment in Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) Regulations, 2024 (hereinafter "**DSM Regulations, 2024**"):

i. Re: Regulation 8 (4)- It is proposed that tolerance band for generating station based on solar or a hybrid of wind-solar resources is to be reduced from +-10% to +-5% from 01.04.2026 onwards. It is further proposed that deviation limit for a generating station based on wind resource is to be reduced from +-15% to +-10% from 01.04.2026 onwards..

ii. Re: Regulation 6 (2) (a) and (b) of DSM Regulations, 2024 provides formulae for calculation of deviation. At present, Available Capacity is being taken at denominator for calculation of the deviation. DSM Proposal, 2025 proposes to

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move denominator from "Available Capacity" to "Scheduled Generation" for calculation of deviation.

Regulation 6(2) (a) provides following formulae to calculate deviation till 31.03.2026:

Dws% = 100 x [(Actual injection in MWh) – (Scheduled generation in MWh)] / [(Available Capacity)]

Regulation 6 (2) (b) provides following formulae to calculate deviation beyond 31.03.2026:

Dws% = 100 x [(Actual Injection in MWh) – (Scheduled generation in MWh)] / [(X% of Available Capacity) + (100-X) % of Scheduled Generation) ***Provided 'X' shall be stipulated by the Commission through separate order(s) after public consultation.***

The Commission, at Para 22 of DSM Proposal, 2025, has proposed value of X for calculation of deviation percentage, in a phasing out manner that by 31.03.2031, denominator will be replaced by "Scheduled Generation" from existing denominator "Available Capacity".

B. Further, at Para 25, the Commission has directed its staff to initiate the process of amendment to the DSM Regulations, 2024 for the following:

i. All existing Wind and Solar (WS) projects should be treated at par with conventional from 01.04.2031 onwards.
ii. All new Wind and Solar (WS) projects, with tendering or bid submission dates on or after 01.04.2026, should be treated at par with conventional.
iii. No payment shall be made to the existing Wind and Solar (WS) sellers for any over-injection during periods when the system frequency is at or above 50.05Hz.

2. Comments/Suggestions/Objections

We are hereby submitting our comments/suggestions to the respective proposed changes:

A. Re: **Shrinking the deviation band even further is detrimental for development of RE sector in the country**

The data relied upon by the Hon'ble Commission in the subject order for reducing the deviation band is itself incorrect

i. The Hon'ble Commission has relied on a study undertaken by Grid-India covering 16 renewable energy generating plants, particularly solar, wind and hybrid projects, across Northern, Western and Southern regions, with forecasting accuracy ranging from poor to best. The study period spanned from 16.09.2024 to 29.06.2025, covering a total of 41 weeks to account for seasonal variations. This sample space considered by the

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Hon'ble Commission to arrive at any conclusion is itself flawed. Out of the vast capacity of wind solar, and hybrid which is installed in India, the data does not specify the total capacity considered, the regions taken into account and pertains to only a period of 9 months, not even one complete year to assess the impact in all seasons. The sample space considered is too small vis-à-vis the number of RE generation plants in the country.

ii. At Para 10-11, this Hon'ble Commission has observed that on tightening of the DSM tolerance band for wind from +/-15% to +/-10% and for solar from +/-10% to +/-5%, the percentage of time the deviation remaining within the respective bands shrank to the range of 32%- 73% from 73%-93% for wind and to 45%- 58% from 74% to 84%. These results, however, were based on simulations carried out on the existing data without factoring in the likely change in behaviour and improvement in forecasting. It appears that despite getting not so positive results and increased deviation percentage after reducing the DSM tolerance band, the Ld. Commission has decided to go ahead with the reduced band on an assumption that there will be improvement in technology which will make the weather predictions accurate.

This approach is against the settled legal principle that the law which cannot be implementable in practice is not a good law.

Unjustified stringency in deviation bands for Renewable Energy

iii. It is submitted that the concept of RE was introduced to these regulations by way of 2nd Amendment dated 07.08.2015 to the DSM Regulations, 2014, to manage increasing integration of the RE power with the grid. In the Statement of Reasons thereto, this Hon'ble Commission underscored the necessity of improved forecasting, scheduling, and balancing mechanisms for addressing the intermittency of RE. Consequently, the Commission notified the Framework on Forecasting, Scheduling and Deviation Settlement for Wind and Solar (regional entities) in 2015.

iv. The deviation band has since then remained relaxed from 2014 onwards, and experiments to reduce the bands despite knowing the intermittent nature of RE, have not proven long lasting. This is evident from the table below:

Year	**Wind**	**Solar**	**Hybrid**
2015- 2016 (07.08.2015 onwards)	-+15%		
2016-2017	-+15%		
2017- 2018	-+15%		
2018- 2019	-+15%		
2019-2020	-+15%		
2020-2021	-+15%		
2021-2022	-+15% (till 14.03.2022) -+ 10% (14.03.2022 onwards)		
2022-2023	-+10% (till 06.02.2023)	-+10% (till 06.02.2023)	-+10% (till 06.02.2023)

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	-+20% (06.02.2023 onwards)	-+15% (06.02.2023 onwards)	-+15% (06.02.2023 onwards)
2023-2024	-+20%	-+15%	-+15%
2024-2025	-+20% (till 05.08.2024) -+15% (05.08.2024 onwards)	+- 15% (till 05.08.2024) -+10% (05.08.2024 onwards)	-+15% (till 05.08.2024) -+10% (05.08.2024 onwards)

- The objective of the DSM Regulations is to discourage all participating entities from deviating from their schedules. This Hon'ble Commission vide order dated 05.12.2022 directed to implement DSM Regulations, 2022, which reduced the tolerance band from 15% to 10% wherein the tolerance band were tightened vis-à-vis DSM Regulations, 2014. However, on account of difficulty expressed by RE developers, this Hon'ble Commission vide order dated 06.02.2023 in 1/SM/2023 again relaxed the tolerance band.
  Albeit, the tolerance band in the said order were tighter vis-à-vis tolerance band in 2014 DSM Regulations.

- Despite the same, this Hon'ble Commission within a very short period again already tightened the tolerance band vide DSM Regulations, 2024, which the RE industry is trying to achieve. Reducing it further, would be ignorance of the intermittent nature of RE.

- As this Commission is aware that the generation from wind and solar is dependent on nature and can never be fully controlled for weather cannot be 100% accurately predicted. The probability of both positive and negative deviations is in the range of atleast +/-15% for wind and +/-10% for solar and hybrid. While the RE industry has been struggling to remain within the tolerance band, the Hon'ble Commission has vide the proposed order, decided to further reduce the band which will severely adversely impact the growth of the RE industry in the country because of the cash flow owing to heavy penalties.

  Further, we would like to bring to your kind notice that there is a technical limit till the forecasting of wind and solar resources can be improved.

v. IEGC, 2023 (Clause 49(4) (c) allows intra-day revisions from 7th and 8th time blocks, if made during odd or even time blocks respectively.

vi. No prominent forecasting agencies including Solargis, IMD and ISRO as well as the weather forecasters are not able to predict the sudden movements of clouds.

vii. As the RE projects are critically dependant on climatic conditions, most of the times it is mainly the local weather which impacts forecasting instead of global or regional weather.

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viii. Also, due to climate change world-wide, the variability and uncertainty has increased over period and same could be observed by comparing the present years with previous years, that the number of days with higher weather uncertainty has increased.

ix. It seems that the proposed change has not considered any of the challenges faced by the RE developers in load forecasting of solar and wind, since it works on only two things viz- narrowing of deviation band, increasing rate of penalisation.

x. The impact of deviation charges and reduction in deviation band would cause extreme injustice as it would create serious prejudice against the WS Sellers for no fault or role of their own.

xi. Therefore, tightening the deviation band would unfairly penalize RE generators for discrepancies are inherent to the limitations of measurement and forecasting, over which they have no control.

xii. It is further imperative to note that even with the most advanced forecasting tools, the forecast can only approximate the actual injection and can never exactly match it, due to inherent errors that may occur on either the positive (over-injection) or negative (under-injection) side. For instance, in wind energy sites, sudden gusts of wind or unexpected lulls cannot be accurately predicted, leading to over-injection or under-injection, respectively.

xiii. It is important to note that this variability is not a limitation of technology, but rather a natural consequence of weather patterns, which are inherently seasonal and unpredictable. Therefore, any assessment must begin by accounting for the probability of both positive and negative deviations.

xiv. It is understood that the proposal seeks to align the green transition with the principle of equitable treatment across all grid-connected generators. While the objective of enhancing forecasting accuracy and operational discipline is duly acknowledged, it is pertinent to note that intermittent renewable energy (RE) generation, by its very nature, cannot be forecasted with the same precision as conventional generation. Therefore, applying identical forecasting and compliance requirements to both categories may not be practical and could potentially impede the achievement of the national target of 500 GW of renewable capacity by 2030.

xv. **Why wind and solar are taken to be in different categories**? Wind and solar power generation constitute distinct categories of renewable energy sources, with inherently different operational characteristics. Wind power generation is highly variable and difficult to predict, whereas solar power exhibits comparatively lower variability and greater predictability.

a. As opined by Dr. Anoop Singh Associate Professor, Department of Industrial and Management Engineering, IIT Kanpur, uncertainty in renewable energy generation and the challenges in forecasting are significantly higher in the case of wind energy compared to solar energy. In view of this, it would be desirable to adopt differential forecasting accuracy limits for wind and solar generation, based on operational experience.

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b. A preliminary study conducted by IIT Kanpur indicates that forecasted wind energy at several locations in India can deviate substantially, often exceeding the ±30% accuracy limit under the RRF mechanism. In light of this, it is suggested that a modest accuracy limit be applied in the first year, with a gradual tightening over time as experience is gained. Accordingly, differential treatment for wind and solar generation is warranted.

c. Wind, in particular, remains highly location-sensitive and subject to errors beyond current forecasting accuracy; empirical studies and IITK analysis show wind forecasting errors can exceed large tolerance limits in specific sites. Differential treatment for wind vs solar remains technically justified.

There cannot be reduction in tolerance bands for the RE projects for which connectivity has been granted prior to effective date of proposed amendments

xvi. It is submitted that the law is applied with a forward-looking perspective. This principle ensures that legal frameworks evolve in tandem with societal and economic developments, providing clarity and predictability.

xvii. In the context of the Hon'ble Supreme Court's judgment in *M. Rajendran & Ors. v. M/s KPK Oils and Proteins India Pvt. Ltd. & Ors.* (Civil Appeal No. 12174 of 2025), the Court addressed the retrospective application of the amended Section 13(8) of the SARFAESI Act. The appellants contended that the amendment, which curtailed the borrower's right of redemption, should apply to actions initiated after its commencement, rather than to transactions predating the amendment. The Hon'ble Supreme Court concurred with this view, emphasizing that the amendment is procedural and remedial in nature. Consequently, it held that the amended provision applies to actions taken after its commencement, such as the publication of the auction notice in January 2021, rather than to the original loan agreement from 2016. This approach aligns with the principle that legal provisions should apply prospectively, ensuring that parties are governed by the laws in effect at the time of the cause of action.

xviii. Therefore, it is submitted that change in any legal provision should be applied prospectively.

B. Re: Gradual phasing out of available capacity and use of scheduled generation for calculation of deviation percentage is detrimental to the RE development goals of the country.

i. It is humbly submitted that gradual phasing out of available capacity in denominator by scheduled generation as basis for calculation of deviation percentage is unviable for RE power plants. To understand this in detail, it is imperative to understand the reason for introduction of available capacity for RE power scheduling and forecasting instead of simply relying on scheduled generation for the same:

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a. The draft framework for handing variable renewable energy sources (Wind and Solar) ("**Draft Framework**") brought the wind and solar energy generation under the ambit of forecasting. It stated that forecasting is an essential pre-requisite for scheduling of the wind/solar generation. Forecasting needs to be done by both the wind/solar generator and the concerned regional load dispatch center. Relevant extracts of the draft framework are as follows:

> "***3.1 Forecasting***:
>
> *Wind / Solar energy generation is uncertain and variable but uncertainty and variability can and should be minimized to the extent possible through proper forecasting. In the earlier framework provided in the IEGC, the wind energy generators were mandated to undertake forecasting and scheduling subject to pre-specified tolerance limit. The solar energy generation being at its infancy was not subjected to commercial impact on account of deviation from schedule. Over the period, however, we have gained experience on solar front as well. In fact, solar is considered equally, if not more firm than wind. As such, both wind and solar energy generation are being brought under the requirement of forecasting and scheduling. Accuracy of forecasts can be increased inter alia by maximizing geographic diversity in wind / solar energy generation as the errors in forecasts tend to offset each other, the larger the number of generators covered and broader the area included in the forecasts. In order to maximize the accuracy of forecasts, meteorological models must incorporate maximum possible data about as many wind / solar energy generators as possible in as high a resolution (spatial and temporal) as possible, which has to be provided on a mandatory basis by all wind / solar energy generators whose scheduling is done by RLDCs as specified in the grid code.*
>
> *Forecasting is an essential pre-requisite for scheduling of the wind/solar generation. Forecasting needs to be done by both the wind/solar generator and the concerned RLDC. While the forecast by the concerned RLDC would be more with the objective of secure grid operation, the forecast by the wind / solar energy generator would be windfarm/solar facility centric and would form the basis of scheduling. Appropriate use of forecast for scheduling is also expected to reduce commercial impact for the wind and solar energy generators. It is understood that the Renewable Energy Management Centers (REMCs) are being established and these would be equipped with advanced forecasting tools. The wind/solar energy generator may choose to utilize its own forecast or the forecast given by REMC/concerned RLDC. However, any commercial impact on account of scheduling based on the forecast would be borne by the wind/solar energy generator. It would also be prudent to have multiple forecast*

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providers (both for REMC/RLDC & wind/solar energy generators) for better confidence levels/lower forecast errors.

3.4 Imbalance Handling

One of major concerns raised by the wind/solar energy generators is the variability of charges payable for deviation as these are variable and linked to the system frequency. Hence, a mechanism also needs to be evolved to provide more certainty of the payment liability on account of deviation from the schedule. Deviations from schedule are bound to occur for the wind/solar energy generator. Presently, the deviations at the inter-state level (for Regional Entities) are settled based on the provisions of the CERC DSM Regulations. Considering the fact that wind/solar energy generation is variable and intermittent, more opportunities to revise the generation schedules have been proposed above. However, the deviations from schedule are still bound to occur and a methodology to account for and settle the deviations by wind/solar energy generators is required. It is essential that desired limits be stipulated for deviation so as to provide enough signals/incentive to the wind/solar energy generator to forecast as accurately as possible.

3.2 Scheduling

The wind/solar generators at the inter-state level whose scheduling is done by the RLDCs, would be scheduled like any other generator and would be paid as per scheduled generation and not actual generation. Considering the fact that wind/solar generation is intermittent and variable in nature and also taking into account the fact that accuracy of forecast improves as we move closer in time, the wind/solar energy generator would be allowed more opportunities to revise the schedule.

b. It is stated that Chapter 6 - Operation Code, Clause 31(3)(b) under IEGC 2023 stipulates the forecasting responsibility on RLDCs are responsible for forecasting wind, solar, ESS and hybrid RE generating stations that are regional entities, while SLDCs cover intra-state entities. The relevant extract of the clause is reproduced as under: -

"RLDC shall forecast generation from wind, solar, ESS and Renewable Energy hybrid generating stations that are regional entities and SLDC shall forecast generation from such sources that are intra-state entities, for different time horizons as referred to in clause (1) of Regulation 31 of these regulations for the purpose of operational planning"

c. It is recommended that the RLDCs and SLDCs prepare and publish reports containing the following information:
   i. Block-wise actual generation
   ii. Block-wise forecast

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iii. Block-wise percentage deviation for wind and solar generation (for the period from 16.09.2024 to 29.06.2025)

iv. Such a practice would facilitate the assessment of the existing forecasting accuracy within each control area and provide valuable insights for further improvement.

v. On 07.08.2015 the CERC (Deviation Settlement Mechanism and related matters) (Second Amendment) Regulations, 2015 ("**DSM Second Amendment Regulations, 2015**") was issued. The error was to be calculated as follows:

(aa) "Absolute Error" shall mean the absolute value of the error in the actual generation of wind or solar generators which are regional entities with reference to the scheduled generation and the 'Available Capacity' (AvC), as calculated using the following formula for each 15 minute time block:

Error (%) = 100 X [Actual Generation– Scheduled Generation] / (AvC)

(ii) After sub-clause (q) under clause (1) of Regulation 2, new sub-clause (r) shall be added as under:-

(r) 'Available Capacity (AvC)' for wind or solar generators which are regional entities is the cumulative capacity rating of the wind turbines or solar inverters that are capable of generating power in a given time-block.

vi. The Statement of Reasons (SOR) issued **DSM Second Amendment Regulations, 2015** explained the concept of available capacity for measurement of error. In order to handle varying seasons and very low or zero schedules and with a view to ensuring optimum and genuine forecasting, error percentage was normalised to available capacity, instead of schedule.
Relevant paras of the SOR to the CERC DSM Second Amendment Regulations, 2015 are quoted below:

"***6.2.1*** *The Commission has reviewed the inputs of the stakeholders. The present error definition has been pointed out to be insufficient to handle varying seasons, especially very low or zero schedules, and not aligned with direct grid impact (MW deviations).*
6.2.2 *The Commission has noted that with the current definition, instances such as low/no generation cases cannot be covered. With due regard to these constraints and with a view to ensuring optimum and genuine forecasting, the Commission has decided to define the error percentage normalized to available capacity, instead of schedule. This will ensure that the error quantity corresponds to the physical MW impact on the grid, the forecasting models are aligned to minimize the actual MW deviations, and the error definition holds valid in all seasons.*

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Revised definition shall be:

Error (%) = (Actual Generation – Scheduled Generation) / (Available Capacity) x 100

Where, Available Capacity (AvC) is the cumulative capacity rating of the wind turbines/solar inverters that are capable of generating power in a given time-block. A suitable procedure along with appropriate format shall be developed by the NLDC for the submission of Available Capacity by the wind/solar generators to the concerned RLDC.

***6.2.3** AvC would be equal to the Installed Capacity, unless one or more turbines/inverters are under maintenance or shutdown. Any attempt at mis-declaration, that is declaration of capacity when it is actually not available due to reasons of maintenance or shutdown etc. would be treated as gaming and would be liable to action under appropriate provisions of the Act or the Regulations.*

vii. This Hon'ble Commission, while noting stakeholder concerns on seasonality and instances of low/zero schedules, clarified that normalization to Available Capacity was necessary to ensure that the error percentage reflects the actual physical MW deviation on the grid and remains valid across all seasons. Accordingly, the final amendment defined Absolute Error as: Error (%) = [(Actual Generation – Scheduled Generation) / Available Capacity] × 100, thereby ensuring more accurate measurement of deviation for RE projects.

viii. On 07.09.2021, this Commission issued the draft CERC (DSM and related matters) Regulations, 2021 ("**Draft DSM Regulations, 2021**"). In the said regulations, the computation of deviation remained the same for WS sellers (i.e., related to available capacity) and related to scheduled generation for general sellers. Relevant provision is extracted below:

"*6. Computation of Deviation*
(1) Deviation in a time block for general sellers shall be computed as follows:
Deviation-general seller (in MWh) = [(Actual injection in MWh) – (Scheduled generation in MWh)].
Deviation-general seller (in %) = 100 x [(Actual injection in MWh) – (Scheduled generation in MWh)] / [(Scheduled generation in MWh)].

(2) Deviation in a time block for WS sellers shall be computed as follows:
Deviation-WS seller (in MWh) = [(Actual Injection in MWh) – (Scheduled generation in MWh)].
Deviation-WS seller (in %) = 100 x [(Actual Injection in MWh) – (Scheduled generation in MWh)] / [(Available Capacity)]

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(3) Deviation in a time block for buyers shall be computed as follows:
Deviation- buyer (in MWh) = [(Actual drawal in MWh) – (Scheduled drawal in MWh)].
Deviation- buyer (in %) = 100 x [(Actual drawal in MWh) – (Scheduled drawal in MWh)] / [(Scheduled drawal in MWh)]"

ix. The Explanatory Memorandum issued along with draft DSM Regulations, 2021 reiterated that the deviation (in percentage) for general sellers (sellers other than wind and solar generators) shall be computed with reference to their scheduled generation while that for the wind and solar generators the same shall be computed with reference to their available capacity to care of the variability.

x. Various stakeholders provided their comments to the CERC Draft DSM Regulations, 2021, wherein few stakeholders demanded for alignment of formula for deviation for WS seller with that of general seller or draw a sunset clause in this regard. However, this Hon'ble Commission, in the SOR issued along with the CERC DSM Regulations, 2022 clarified that the formula (with Available Capacity instead of scheduled generation in the denominator) is based on existing practice giving due recognition to the uncertainty that still goes with wind and solar generation. It recognised that doing away with this formula would be counter-productive for integration of renewable energy.

"**5. *Computation of deviation***

5.1 Computation of Deviation (Regulation 6)

Analysis and Decisions:

The Commission has considered the suggestions of the stakeholders. Some of the stakeholders have suggested to align the formula of deviation for WS seller with that of General seller or draw a sunset clause in this regard. The Commission would like to clarify that this formula (with Available Capacity instead of scheduled generation in the denominator) is based on the existing practice and has been retained in the DSM Regulations 2022 in due recognition of the uncertainty that still goes with wind and solar generation. Reference in this context is invited to the Statement of Reasons (SOR) of the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) (Second Amendment) Regulations, 2015 through which this formula of deviation was introduced. The relevant extract from the SOR is quoted below:

....

....

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The Commission believes, this rationale still holds good and any departure from this practice at this stage of development of RE sector would be counter-productive and might adversely affect RE integration*. Further, from system operation point of view what matters is the MW deviation in a time block which is reflected in the numerator of the formula. It is expected that the wind and solar generators would be encouraged by this dispensation, improve forecasting and minimize the deviation in the numerator. Hence, the Commission has decided to retain the formula in the final regulations.*"

xi. On 30.04.2024, the draft Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) Regulations, 2024 ("**Draft DSM Regulations, 2024**") were issued by this Commission. Again, same formula was kept for calculation of deviation percentage.

xii. Many objections/ comments were received with respect to calculation of deviation percentage and urging this Hon'ble Commission to move towards a new formula with scheduled generation as the denominator.

xiii. Consequently, on 05.08.2024, this Hon'ble Commission notified the current CERC DSM Regulations, 2024 with a different formula for calculation of deviation percentage. It notified the new formula which shall be applicable for the period from 01.04.2026 onwards on Wind Solar sellers, however the formula for General Sellers remained unchanged.

"Clause 6 Computation of Deviation

....

(2) Deviation in a time block for WS sellers shall be computed as follows:

a) For the period from the date of commencement of these regulations to 31.03.2026

Deviation-WS seller (DWS) (in MWh) = [(Actual Injection in MWh) – (Scheduled generation in MWh)];

Deviation-WS seller (DWS) (in %) = 100 x [(Actual Injection in MWh) – (Scheduled generation in MWh)] / [(Available Capacity)];

b) For the period from 01.04.2026 onwards

Deviation-WS seller (DWS) (in MWh) = [(Actual Injection in MWh) – (Scheduled generation in MWh)];

Deviation-WS seller (DWS) (in %) = 100 x [(Actual Injection in MWh) – (Scheduled generation in MWh)] / [(X% of Available Capacity) + (100-X) % of Scheduled Generation):

Provided 'X' shall be stipulated by the Commission through separate order(s) after public consultation.

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xiv. Subsequently, on 15.11.2024, this Hon'ble Commission issued the SOR along with objections raised by the stakeholders and distribution companies requested to consider 'scheduled generation' in the denominator instead of available capacity as available capacity amounts to disparity between thermal and wind- solar plants. Furthermore, some stakeholders suggested that both Available Capacity and Scheduled Generation may be given equal weightage in denominator. Considering the comments as advanced by these stakeholders, this Hon'ble Commission concluded that:-

"5.4 The Commission recognizes that while RE generators have historically been given certain advantages in DSM due to the intermittent nature of their output, the landscape has evolved over the period. With improvement in forecasting techniques and the growing importance of grid security, it is appropriate to gradually align the deviation criteria for RE generators with those applicable to conventional generators. However, the Commission also understands the inherent complexities in forecasting wind and solar generation. Therefore, the Commission believes that providing some relaxations—over and above those available to general sellers—continues to remain necessary. As such, the Commission has decided that the existing formula, as provided in the draft, will continue to be effective up to 31.03.2026. Post this, the formula of deviation will be replaced from available capacity to scheduled generation in a phased manner, for which separate Order(s) will be issued by the Commission after due consultations with stakeholders."

ii. It is respectfully submitted that the Renewable Energy (RE) sector, particularly wind and solar power generation, operate under inherent natural uncertainty and are fundamentally dependent on weather conditions, which remain beyond human or technological control. The unpredictability associated with meteorological factors such as wind speed, cloud movement, and solar irradiance cannot be completely captured, even with the most advanced forecasting models or computational tools available globally.

iii. The Hon'ble Commission has, since the introduction of the Forecasting, Scheduling and Deviation Settlement Framework (2015), consistently recognized this uncertainty and accordingly retained the Available Capacity based deviation formula and a liberal tolerance band for RE generators. The said formulation was consciously adopted to account for low or zero generation periods and to ensure that deviation reflects the actual physical impact on the grid.

iv. It is submitted that technological advancement can only enhance data accuracy but cannot overcome the intrinsic unpredictability of weather. Therefore, any tightening of the deviation band must be approached cautiously, keeping in view that the uncertainty in RE generation arises from natural variability and not from any lack of technological sophistication or operational discipline on the part of the generators.

Imposition of penalty in the form of deviation charges consequent to stringent deviation band is not the way to achieve grid stability.

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v. The Deviation Settlement Mechanism was introduced to improve real-time grid discipline by financially penalising/settling entities that deviate from declared schedules, and to encourage better forecasting and scheduling discipline for all participants, including renewable generators. This Hon'ble Commission explicitly introduced RE-specific dispensation (Absolute Error normalized to Available Capacity) in the 2015 framework to reflect the intermittent character of wind/solar and to measure deviation in MW terms.

vi. DSM charges have led to significant financial impact on generators and states, prompting concerns that DSM settlements are functioning, in part, as a transfer/revenue item rather than purely a reliability tool. "Exorbitant" DSM bills have put material financial stress on generators.

vii. While grid discipline is a must for ensuring grid security, such objective should be aimed to be achieved in a pragmatic manner. Though RE Generators must continue to grapple with employing forecasting solutions that yield better results, the inherent uncertainty of RE resource availability may warrant further adjustments to ensure grid safety while encouraging RE investment.

viii. Independent industry analysis like S&P Global and press coverage like Mercom India have warned that certain tightening steps in DSM (2022/2024 drafts) may make some wind projects commercially unviable and could destabilize scheduling behavior i.e., incentivize conservative under-scheduling or other gaming that is sub-optimal for system operation.

ix. DSM performs a dual role: operational discipline and a material transfer/payment mechanism with the latter producing adverse commercial consequences when bands or rates are tightened abruptly.

x. In light of the same, some international comparison is also relevant which supports the submission that RE forecasting cannot be 100% accurate and requires some relaxations:

a. Australia (Australian Energy Market Operator (AEMO) /National Electricity Market (NEM)): centralized forecasting + "semi-scheduled" treatment. AEMO operates national wind & solar forecasting systems (AWEFS / ASEFS) and uses those forecasts directly in dispatch/adequacy processes. Many large RE plants are classified as **"semi-scheduled"** and are dispatched relative to available capacity forecasts produced by AEMO; AEMO also runs intra-day and dispatch processes and procures reserves/FCAS to manage deviation.

b. Great Britain / EU (Balancing Mechanism & Imbalance Settlement): BRP responsibility + balancing bids. Market participants (Balance Responsible Parties) are financially accountable for their imbalances; the **Balancing Mechanism** and **Imbalance Settlement** calculate payments/charges using market prices and the TSO's balancing actions. Renewables participate in the balancing market (sometimes via offers/bids) and are subject to imbalance settlement like other generators, though market design and curtailment rules vary by country.

c. United States (Independent System Operator/Regional Transmission Organization): California Independent System Operator, MISO, NYISO):

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Renewables participate in day-ahead and real-time markets; ISOs procure reserves and ancillary services, run imbalance/real-time markets and (in some cases) operate residual commitment or energy imbalance markets that help absorb forecast error. Emphasis is on market solutions (RTM, EIM, ancillary services) rather than simply punitive static penalties. California ISO, for example, runs dedicated studies and programs to integrate renewables, improve forecasts and use the Energy Imbalance Market to share balancing resources regional.

C. Re: At Para 25, the Commission has directed its staff to initiate the process of amendment to the DSM Regulations, 2024 for eventually equating RE sellers with general sellers.

i. For the various reasons stated above, and the fundamental difference in the nature of source of power this should not be done.

D. Suggestion:

If this Hon'ble Commission considers to go ahead with the proposal, then without prejudice to our right to challenge:

i. this Hon'ble Commission should appoint an agency to undertake forecasting exercise on payment of Fee. Further, there should not be any penalty for deviation, if generator provides Schedule in terms of the data shared by the agency appointed by this Hon'ble Commission.

ii. This Hon'ble Commission should specify that DSM Proposal, 2025 will not be applicable for all those projects whose connectivity has been obtained prior to implementation of proposals proposed in DSM Proposal, 2025.

iii. Further, this Hon'ble Commission should specifically specify that a change in law compensation shall be provided to all developers who will be required to incur additional expenditure for implementation of proposals provided in DSM Proposal, 2025.

Your's Faithfully,

For KPI Green Energy Limited

KPI GREEN ENERGY LIMITED SURAT

Authorised Signatory