

To

Date:03rd June 2024

**The Honourable Chairman and his Companion Honourable Members,
Central Electricity Regulatory Commission,
7th Floor, Tower B, World Trade Centre, Nauroji Nagar, New Delhi 110029.**

Dear Sirs,

Sub: Comments / Suggestions on Published Draft CERC DSM Regulations 2024

Ref: 1. CERC Public Notice No. L-1/260/2021/CERC dtd 30.4.24 for comments on Draft DSM 2024 Reg

2. CERC DSM Regulations 2022, with full frequency delinking, implemented w.e.f 5th Dec 2022.
3. CERC Emergency Suo Moto Directions 16/SM/2022 dated 26th Dec 2022 to contain frequency
4. CERC Expert Committee Report dated Jan 2024 analysing the aftermath of 2022 Regulations

At the onset, I would like to thank the Commission, for continuing to follow it's democratic tradition of seeking stakeholder comments, sectoral feedback /suggestions and Recommendations of the Technical Experts on Technical Matters, in the true spirit of the Electricity Act 2003, while formulating various Regulations which have a huge bearing on almost all the citizens of India.

- A. It is Important to note that this Draft **DSM 2024 Regulations are different** in the nature, context, scope , application and impact on the electricity sector in India, in comparison to most other CERC Regulations, in the following aspects.
 - a. It impacts the Safe, Reliable and Sustained Physical Operation of the World's Largest Machine ever built i.e., Power System Grid, thereby preventing Blackouts.
 - b. It alters the collective behavior of 25,000+ expert power system engineers vigilantly watching over the Indian Grid at any point of time, due to techno commercial linkages impacting them, and instantly taking independent and decentralized (but coherently aligned) control action to support Grid without any intervention of any Load Dispatcher.
 - c. Any undesired impact is immediately visible and instantly affects the Grid , as seen from the "Experiment of Frequency Delinked DSM " done by the CERC w.e.f 5th Dec 2022 implementing 2022 DSM Regulations, which had to be corrected by Suo Moto Directions.
- B. Considering the Technical Complexity of the Regulations , this time even before drafting DSM 2024 Regulations (unlike 2022 DSM Regulations), the Commission has followed the appropriate process of constituting a technical expert committee and sought their [detailed report \(running into 247 Pages\)](#) with Recommended Regulation Draft also attached to the EC Report as Annexure 8.
- C. Presently Published Draft DSM 2024 Regulations for comments , are almost exactly inline with the Recommended Draft given by the Expert Committee in Jan 2024. Hence the comments on the Draft Regulations are basically on the approach , analysis and Recommendations of the Expert Committee on DSM.
- D. **In the context as explained above, you may find my below listed comments / suggestions** useful while finalizing the DSM Regulations 2024.

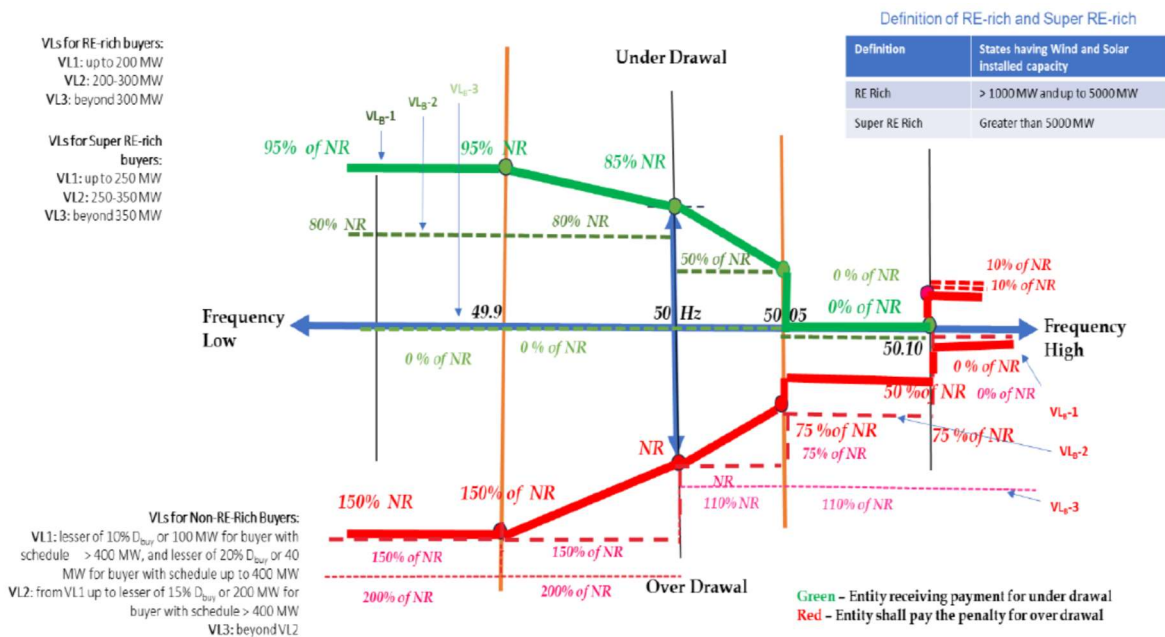
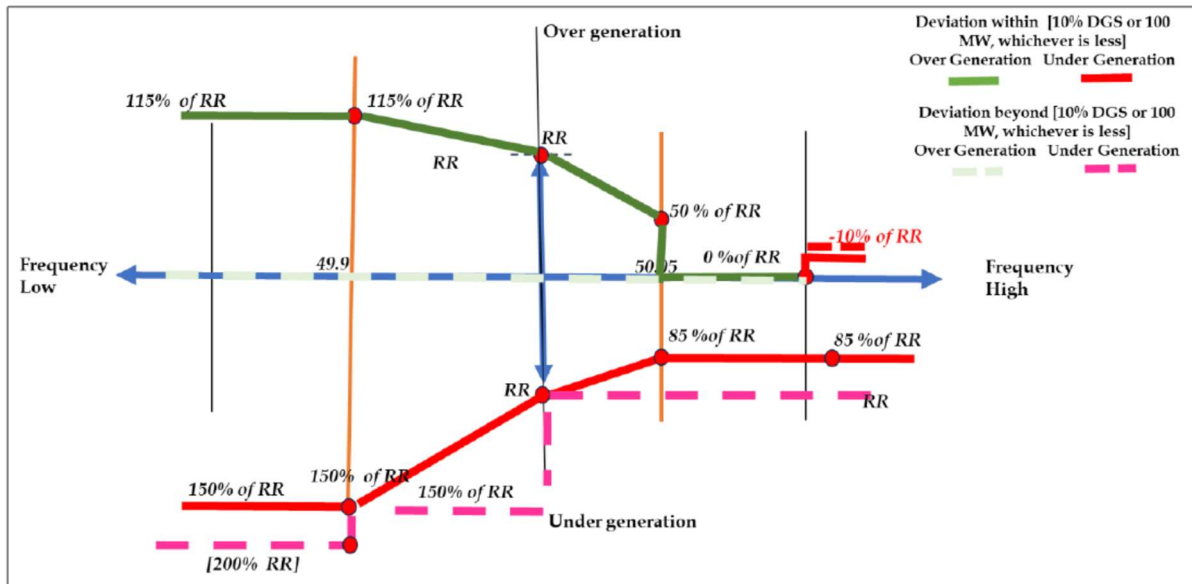
1. **General Overall Comments:** Key Design Elements identified by the Expert Committee for potential DSM remedial measures as Recommended by the Expert Committee at [Section 8.2 of the Report \(at Page 70\)](#) are reproduced below

- “1. Avoiding asymmetry in pricing structure.
2. Avoiding over-incentivizing for deviation.
3. Promoting participation in ancillary services.
4. Not making DSM as another market mechanism.
5. Making provision to capture operation of generator in FGMO as per latest IEGC”

However, the **above key design focus directions/ elements**, chosen by the EC, **need to be examined critically from following perspectives**

- i. Is their objective **correct and aligned** with the objective of DSM Regulations ?
- ii. Are these design elements **really “key” , useful and effective** in generating optimal remedial measures to meet the objectives of DSM Regulation ?
- iii. If found correct and useful, **whether those design elements were accordingly drafted and carried into the draft DSM Regulations 2024** or not ?

Proposed Draft DSM Framework for General Non RE Seller and Buyers, [as in EM](#) is



For Better clarity and ready reference **Objective of DSM Regulations** as described in the Preamble of the [Draft DSM Regulations 2024](#) is reproduced below.

“Preamble

Whereas it is necessary to provide for a regulatory mechanism for the treatment and settlement of deviation from the schedule of drawal or injection of electricity in the interest of reliability, security, and stability of the grid, it is hereby specified as follows:”

On Examining the above five design elements chosen by the EC with reference to the above Objective and above Proposed Draft Regulations , we find that

1. The **First design element of “Avoiding asymmetry in pricing structure”** chosen by the EC is **highly laudable and fully aligned to the objective of DSM Regulations**, as the Deviations are always assumed to be inadvertent and occur symmetrically on the both sides. However, we can **clearly see from the Proposed Draft Regulations that Pricing Structure is Completely Asymmetrical in Both +/- Deviation directions , across All frequency ranges / bands and for Both Buyers as well as Sellers. So the Opposite of what the Design Element states is Recommended as Draft Regulation.** How is the first design element addressed and why is not carried forward into the Draft Regulations?
2. The **Second design element of “Avoiding over-incentivizing for deviation”** chosen by the EC is not clearly aligned to the objective of DSM Regulations and in fact in a way it is in conflict with the first design element, because **in any Symmetric Pricing Structure the case of Over or Under Incentivization does not arise** and Pricing will be symmetrical in both directions of deviation. However Due to the Asymmetry adopted in the Proposed Draft Regulations, **Pricing Structure is Assymmetrical when it comes to Penalty and Incentive, as well as while Incentivizing the same Quantum of Grid Helping Deviation by the Buyer or Seller.** At 49.5 Hz frequency , whether it is Over Injection by the Sellers or Under Drawal by the Buyers, both give the same helpful effect for Grid Stability and should be equally incentivized at par with each other without any intentional discrimination between Buyers and Sellers. In fact in this case OI by Seller / UD by Buyer is akin to PRAS Ancillary Service UP / Demand Response DOWN being dispatched automatically by an invisible decentralized control system of 25,000+ power system experts. **Objective of DSM Regulations does not include the commercial / incentive discrimination between equally helping / degrading deviations**, there by implying that the Commercial pool of funds to be collected as penalty and disbursed back as incentive should be net zero over any cyclical period of time. However **due to this Asymmetry in Regulations, Intentional differentiation between Seller and Buyer is created and Regulations are Designed for Non Net Zero Pool Fund.** Is the Second design element correct , relevant or justified?
3. The **Third design element of “Promoting participation in ancillary services”** is in fact one of the routes / solutions to reach the objective of DSM Regulations and **promoting one route only can not be said as route agnostic alignment with the objectives of the Regulations.** As described in previous point, **Instant Participation in frequency control by all grid connected entities, in a service akin to Ancillary Service is automatically ensured if Symmetric DSM design is adopted** and a Separate market based and centrally / remotely dispatched **Ancillary Services from LDCs need not be separately “promoted” as such.** In fact this third design element appears to be linked to the unjustified second

design element , wherein a Non Net Zero Pool fund is deliberately created by design, for promoting the ancillary services. How is the Third design element justified?

4. The **Fourth design element of “Not making DSM as another market mechanism”** is in fact prohibiting one of the time tested route and proven solutions for achieving the objective of DSM Regulations and **Discouraging / Disincentivizing such practical, working solution / route can not be said as route agnostic alignment with the objectives of the Regulations**. As described in previous point, Instant Participation in frequency control by all grid connected entities, in a **service akin to Ancillary Service is automatically ensured if Symmetric DSM design is adopted** and a Separate market based and centrally / remotely dispatched Ancillary Services from LDCs need not be separately “promoted” as such with great efforts. **What is wrong , if the time tested DSM mechanism** through it’s implicit /inherent commercial signals **is effectively achieving the same objectives of the Regulations proposed to be achieved by laborious , cumbersome and costly Ancillary Services** cleared through Traders/ Exchanges with increased transaction costs? **Are we concerned with Meeting Objectives or Means of achieving those objectives ?** In fact this fourth design element intentionally discriminates, by suppressing an effective time tested DSM route of meeting Objective, over an un proven proposed route of Ancillary Services. If a mechanism is working fine , why to dismantle it to promote another ? **I am sure that Objective of DSM Regulations (quoted above) DOES NOT include Power Exchange Market Promotion or increasing the depth of market , attracting (or forcing) greater participation in new products like Ancillary Services etc.** When a Design Element is clearly against the Core Objective of the Regulations , can it be chosen at all for further deliberation and drafting ? It appears to be in continuation to the unjustified second and third design elements , wherein a Non Net Zero Pool fund is deliberately created by design, and One costly Route (Ancillary Services) is deliberately promoted by channeling the funds from the created surplus and another time tested effective and cheaper route is deliberately suppressed. How is the Fourth design element justified?
5. The details of how **Fifth design element of “Making provision to capture operation of generator in FGMO as per latest IEGC”** is realized are not found neither in EC Report nor in Explanatory Memorandum. EC Report explains more about the required transition from RGMO to FGMO in Indian Electricity Grid Code and further discusses the adverse interactions between DSM and Ancillary Services , but nothing is said about the design changes proposed / recommended to be made in Draft DSM Regulations. From the Draft DSM Regulations 2024, one could only find the provisions of Draft Regulation 8(8) and 8(9) (for infirm power and startup power treatment only) created in continuation to the pointers enabled in Regulation 19(5) of Indian Electricity Grid Code 2023 and no other linkages or provisions to capture Free Governor Mode Operation in DSM Regulations could be found or explained in EM. So it is not clear from the EC Report as well as EM , whether this Design Element is “a key design aspect” and if so whether it is effectively carried into the draft DSM Regulations 2024.

In view of the detailed and critical examination of the “key design elements” based on which Draft DSM 2024 Regulations were proposed, I sincerely urge the Commission to have a complete and thorough relook on the proposed Framework before making major far reaching changes as in Draft and Indian Grid can not risk another trial and error DSM Experiment as done during December 2022.

Even though the Basic Design itself is urged to be relooked, Some Draft Regulation wise Comments in this context are also offered for Commission's kind consideration, as below

2. **Draft Regulation 5 – Adherence to Schedule and Deviation:**

*“5 (2) Deviation shall **generally be managed through the deployment of Ancillary Services**, and the computation, charges, and related matters in respect of such deviation shall be dealt with as per the following provisions of these regulations.”*

It is clear from the above that above **prescriptive provision of “How Deviations are to be Managed” is not in line with the Objective** of the Regulations, which is limited to **“provide for a regulatory mechanism for the treatment and settlement of deviation” only**. Infact this appears to be the main guiding factor in designing the draft DSM Regulations, discouraging the original time tested DSM / UI framework for grid stability and forcibly shifting towards market based ancillary services driven DSM framework, with no visible and spelt out technical or commercial benefits to the Grid and it's Users. Ultimate Objective matters, Not the Route **Hence the above Regulation prescribing Ancillary Services as the main source to manage Deviations may be modified accordingly.**

3. **Draft Regulation (7) - Normal Rate of Charges for Deviation:**

Fixed Weightages of 1/3 to ACP DAM, ACP RTM and Deployed AS Price is NOT inline with the Expert Committee Recommendation in Annexure 8 of EC Report. **EC Committee Recommended Weighted Average** of the above three and has alternatively suggested 1/3 weight. Regulation (7), if needed as drafted after relook, may be modified as per the first Recommendation of the Expert Committee i.e., Weighted Average.

4. **Draft Regulation (8) - Charges for Deviation:**

Basis or Rationale or Benefit Analysis for Completely Delinking the Wind Solar Sellers from Grid Frequency is nowhere found in the 247 Page EC Report or 33 page Explanatory Memorandum. As far as Electricity Grid Stability and Deviation Management is concerned, there is no difference between Thermal Power or RE power or Hydro Power and Power has no Black / Green / Blue colour. Wind and Solar Power Sources are the major sources of Grid Instability due to intermittent and large deviations i.e., they are the Polluters who should logically pay / clean up the Grid Deviations caused under same Grid frequency or include the cost of storage for Grid Parity. WS Sellers are going to be major volume players in future. Delinking from Grid Frequency for DSM has been unsuccessfully tried in Dec 2022. I request CERC not to implement this Frequency Delinking also in the interest of Grid Stability.

With the above suggestions, I wish to express my gratitude once again for seeking the stakeholder suggestions and I hope that my suggestions are of use to the Commission while finalizing the technically sound DSM Regulations 2024, to realize the Objectives of the DSM Regulations.

Yours faithfully,



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