

Ref.: APL/CERC/26102024

Date: 26.10.2024

To
The Secretary,
Central Electricity Regulatory Commission,
World Trade Centre, 6th, 7th and 8th floor, Tower -B,
Nauroji Nagar, New Delhi - 110029

Sub.: Submission of comments on Draft CERC (Deviation Settlement Mechanism and Related Matters) (First Amendment) Regulations, 2024, sought vide Notification No. L-1/260/2021/CERC dated 02.10.2024.

Dear Sir,

With reference to the comments invited by the Hon'ble Central Electricity Regulatory Commission on the Draft Deviation Settlement Mechanism and Related Matters (First Amendment) Regulations, 2024, we hereby submit our comments on the same with a request to kindly take the same on record.

Thanking You,
Yours Sincerely,

For **Adani Power Limited**



M. R. Krishna Rao
President

APL Comments on Draft First Amendment to CERC DSM Regulations, 2024 (To be implemented from 01.12.2024)

Background:

It is important to discuss the background for bringing the 1st Amendment to DSM 2024 Regulation, more particularly Regulation 8(8) related to the scheduling of infirm power. In the meeting held by the MoP on 14.09.2024 representatives of RE Developers, and their Associations and along with APP had pointed out that the DSM 2024 Regulation is not permitting the scheduling of infirm power and is resulting in significant cost implications to both RE and non-RE generation sources. The representative from NTPC had also pointed out its adverse implication on cost/ end consumers. At the same time Grid India had pointed out that scheduling of infirm power should be allowed only after Firm generation capacity is established/known. Considering the above aspects, MoP has recommended that CERC may consider deferment of implementation of Regulation 8(8) in the meantime and decide the matter in consultation with all stakeholders. In other words, MoP has advised CERC to amend the DSM 2024 Regulation suitably to address the concerns of both RE and Non-RE power developers. CERC was advised to specify separate Regulations for RE and Non-RE power on the issue of scheduling of infirm power.

Against the above background, we are surprised to note that Hon'ble CERC has retained the same provision as was stipulated originally in DSM 2024 Regulation in so far as scheduling aspects of infirm power are concerned. In the draft regulation, no separate dispensation is provided for RE and non-RE generators as advised by MoP nor any clarification is given to allow scheduling of infirm power.

Comments & Suggestions:

In the above context we request Hon'ble CERC to consider the following comments and suggestions:

1) Inconsistent approach:

- a) As already pointed in the meeting held by MoP on 14.09.2024, there is inconsistency in the proposed DSM 2024 Regulation and IEGC 2023 Regulation. The proposed DSM 2024 Regulation is in complete deviation to the approach in this Hon'ble Commission's Suo-Motu order 1/SM/2023 dated 06.02.2023 whereby the Commission itself has felt that allowing scheduling of infirm power is very much essential in order to ensure safe and secure operation of grid.

Surprisingly, without there being any change in circumstances in the last one year after the passing of this Suo-Motu order in 2023, the DSM 2024 Regulation notified by the same CERC prohibits scheduling of infirm power.

In our view such an inconsistency and uncertainty in the regulatory regime is not a desirable feature as the investors would be perplexed in taking any decision to invest in the power sector in India. This will have serious implications on the Government of India's ambitious target to bring 500 GW of RE capacity by 2030.

- b)** Another inconsistency to be pointed out is that while there is no limitation on the number of attempts/installments for completion of trial run in case of Wind generator the CERC IEGC Regulations limit the number of attempts/installments to 'four' in case of solar power.

"22 (3) Trial Run of Wind / Solar / ESS / Hybrid Generating Station:

(a) Trial run of the solar inverter unit(s) shall be performed for a minimum capacity aggregating to 50 MW:

Provided that in the case of a project having a capacity of more than 50 MW, the trial run for the balance capacity shall be performed in a maximum of four instalments with a minimum capacity of 5 MW:

.....

(c) Trial run of a wind turbine(s) shall be performed for a minimum capacity aggregating to 50 MW:

Provided that in the case of a project having a capacity of more than 50 MW, the trial run for wind turbine (s) above the capacity of 50 MW shall be performed in batch sizes of not less than 5 MW:

...."

There is no rationale to impose such restriction for solar power generators and discriminate Solar Power Generators from Wind Power Generators. CERC had not provided any reason in the explanatory memorandum/SOR for adopting such restrictions for Solar Power Developers.

In this regard it is humbly submitted that CERC has not considered the fact that solar power developers are coming up with capacities as high as 1000 MW and more and in such cases if only 4 number of attempts/installments are allowed (@ min. 50 MW) for completion of trial run, the developers would not be able to complete the trial run within the specified period of 45 days in terms the CERC IEGC First Amendment Regulations, 2024 notified on 23.10.2024.

It may further be appreciated that Solar projects are usually commissioned feeder wise or block wise, wherein, each feeder carries the capacity of 25 MW connected with two different blocks (each of 12.5 MW) of Solar Plant. Under such circumstances, it would be practically difficult to complete the trial run in 4 attempts in case of large-scale projects.

Therefore, CERC is humbly requested not to discriminate Solar power generators and keep them at par with the wind power generators by removing the restriction of 4 number of attempts/installments for completion of trial run.

2) Grid im-balancing concerns:

We are conscious of the concerns raised by the Grid India during the meeting held on 14.09.2024 in MoP as well as on the comments submitted by Grid India against Draft DSM 2024 Regulation. Grid India had suggested that scheduling of infirm power shall only be considered after the firm capacity is established by a generating station.

In this regard it is submitted that the IEGC 2023 Regulations already provides for certain conditions to demonstrate the firm capacity such as 4 hours of cumulative power flow during sunrise to sunset for solar and 4 hours of continuous power flow for wind generators in a day. Scheduling of infirm power if allowed only after completion of such firm capacity demonstration in our view it will address the concerns of Grid India to a large extent as it brings certainty to the amount of power that is coming into the Grid after trial run albeit with certain % of deviation depending upon various other factors.

It is further submitted that the grid management would be better if infirm power is also scheduled as the Grid operators will have fair idea about the injection of power into the grid, it would be useful to plan and manage the Grid better in comparison to a situation where there is no information to Grid Controller about the quantum of infirm power coming into the grid. Unless there are any commercial implications for the deviation, the Generator would be free to inject any amount of infirm power.

Considering these aspects in a holistic way, it would be prudent to allow scheduling of infirm power during or before completion of trial run.

We therefore humbly request the Hon'ble CERC to continue with its approach of allowing scheduling of infirm power as per its Suo-Motu order 1/SM/2023 dated 06.02.2023, subject to the conditions explained below.

3) Provisional trial run & scheduling of infirm power:

- A.** The CERC IEGC First Amendment Regulation, 2024 notified on 23.10.2024 allows injection of infirm power for 45 days in respect of RE sources to align IEGC and DSM Regulations, scheduling of infirm power before demonstration of firm capacity to be allowed only up to 45 days. By the end of such 45 days the RE Generators shall be obligated to establish firm capacity, along with communications and metering systems.

For completing the various test requirements to demonstrate the compliance parameters as per CEA standards, it is highlighted that there are various technical and practical difficulties as elaborated below:

- i.** Most of the REGS plants are charged and commissioned in parts/phases (in small packages of 50 MW or lower capacity) which in turn takes time in completion of trial run w.r.t. complete project capacity.
 - ii.** Even after charging such part capacity, various checks of parameters are required to be done internally which takes more time in corroborating the desired results which is quite essential to avoid any issue during actual trial run.
 - iii.** At times even after having FTC approval in place, there are situations where delays happens in the 1st time charging because of various reasons which are beyond the control of the developer such as checks and fault etc.
 - iv.** Further, charging of individual elements of REGS/ESS such as 220 KV line, 220 KV Bay, 33/220 KV transformers, 33 KV feeders, WTG and 33 KV unit Transformers etc. takes place in phases. In such cases, it usually takes 4-5 attempts in completion of charging of merely 100 MW project as such feeders are charged one by one progressively. And in case of large-scale projects it would certainly need some extra time for charging and synchronization alone.
 - v.** During monsoon season, testing is not possible at required rated capacity, due to rapid change in radiation and wind speed. Similarly, during lean wind season, generation from wind also faces constraints.
 - vi.** During the testing, due to sudden movement of cloud or drop in wind speed, any small deviation in the generation and PPC performance (Active Power, Reactive Power, Frequency, Ramp rates) may lead to failure of Trial run testing.
 - vii.** Despite having necessary equipment's installed at site, there are practical difficulties in completing all the necessary tests as required in terms of IEGC 2023 Regulation, especially the PPC test. The PPC test requires some additional time for operating parameters configuration by OEM, logics development, software program fine tuning etc. as per CEA standards to make it absolutely ready for the Grid operation conforming to prescribed standards.
 - viii.** Further as stated above, PPC test can be conducted in a large size power plants (500 MW and above) only after commissioning of the entire capacity, which takes significant time @ 45 days for each 50 MW.
 - ix.** Hence, typically completion of PPC test requires 5 to 6 months for a large scale power plant equivalent to 500 MW.
- B.** In this context, it is also important to bring to the notice of CERC that there is need to specify separate technical standards for RE Gencos and the requirement of PPC testing is to be reviewed in totality for RE Gencos, and fresh SOP/guideline to be issued in consultation with the RE developers.

Until then it is suggested to allow the completion of Trial Run in two phases:

1) Phase-I: Provisional trial run:

Upon demonstration of the equivalent/desired power flow and establishment of communications and metering systems it shall be treated as completion of provisional trial run.

Provided that, a maximum of 45 days shall be allowed for successful completion of the Provisional Trial Run. Scheduling of infirm power shall be permitted during such period of Provisional Trial Run.

Provided further that scheduling of infirm power shall not be permitted beyond 45 days in case the RE developer fails to complete the provisional trial run.

2) Phase-II: Final trial run:

Upon completion of provisional trial run, final trial run is to be completed within one year including the PPC testing and pending compliances if any, failing which no power shall be allowed to be scheduled after expiry of one year from provisional trial run completion.

Once Final trial is completed, in terms of Grid Code COD may be declared subject to fulfilling the PPA conditions, if any.

Apart from the above, clause-wise comments are provided below for the consideration of the Hon'ble Commission.

Sr. No.	CERC DSM Regulations, 2024	Draft First Amendment	Remarks/ Comments
1.	3. Definitions and Interpretation (g) 'Available Capacity' for generating station based on wind or solar or hybrid of wind solar resources, which	3. Definitions and Interpretation (g) 'Available Capacity' for generating station based on wind or solar or hybrid of wind solar resources, which are regional entities, is the cumulative capacity	<ul style="list-style-type: none"> • The formula for computing % deviation is (Actual – Schedule)/ (Available Capacity). • Limiting the available capacity to the quantum of connectivity granted shall cause increase in % deviation. • In solar, the developers resort to DC overloading to boost the CUF, and for that they

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	are regional entities, is the cumulative capacity rating of wind turbines or solar inverters that are capable of generating power in a given time block.	rating of wind turbines or solar inverters that are capable of generating power in a given time block and shall be limited to the quantum of connectivity granted.	<p>incur more CAPEX towards installation of more modules.</p> <ul style="list-style-type: none"> • If the definition of Available Capacity is limited to the quantum of connectivity granted, then such developers who have installed higher capacity for meeting the CUF requirements, shall be at a disadvantage. • Hence, it is humbly submitted to not amend the definition of 'Available Capacity'.
2.	<p>3. Definitions and Interpretation</p> <p>(j) 'Contract rate' means (i) in respect of a WS seller or a MSW Seller or such other entity as applicable, whose tariff is determined or adopted or approved under Section 62 or Section 63 or Section 86(1)(b) of the Act, Rs/kWh tariff as determined or adopted or approved by the Appropriate Commission; or (ii) in respect of a WS seller or a MSW Seller or such other entity as applicable, whose tariff is not determined or adopted or approved under Section 62 or Section 63 or Section 86(1)(b) of the Act, and selling power through</p>	<p>3. Definitions and Interpretation</p> <p>(j) 'Contract rate' means (i) in respect of a WS seller or a MSW Seller or such other entity as applicable, whose tariff is determined or adopted or approved under Section 62 or Section 63 or Section 86(1)(b) of the Act, Rs/kWh tariff as determined or adopted or approved by the Appropriate Commission; or (ii) in respect of a WS seller or a MSW Seller or such other entity as applicable, whose tariff is not determined or adopted or approved under Section 62 or Section 63 or Section 86(1)(b) of the Act, and selling power through power exchange(s), the price as discovered in the Power Exchange</p>	<ul style="list-style-type: none"> • Welcome step. <p>Rationale:</p> <ul style="list-style-type: none"> • Contract rate is the PPA rate for RE Plants and Reference rate is the ECR rate for Thermal Plants. • The definition of both rates is proposed to be amended vide this first amendment to provide clarity for rate at which DSM treatment shall be done for sale of power through third parties or open access.

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	<p>power exchange(s), the price as discovered in the Power Exchange for the respective transaction; or (iii) in case of captive consumption of a captive generating plant based on renewable energy sources, the weighted average ACP of the Integrated-Day Ahead Market segments of all Power Exchanges for the respective time block; (iv) in case of multiple contracts or transactions including captive consumption, the weighted average of the contract rates of all such contracts or transactions, as the case may be.</p>	<p>for the respective transaction; or (iii) in respect of a WS seller or a MSW seller or such other entity as applicable, selling power through open access to a third party or in case of captive consumption of a captive generating plant based on renewable energy sources, the weighted average ACP of the Integrated-Day Ahead Market segments of all Power Exchanges for the respective time block; (iv) in case of multiple contracts or transactions including captive consumption, the weighted average of the contract rates of all such contracts or transactions, as the case may be.</p>	
3.	<p>3. Definitions and Interpretation</p> <p>(y) 'Reference Charge Rate' or 'RR' means (i) in respect of a general seller whose tariff is determined or adopted or approved under Section 62 or Section 63 or Section 86(1)(b) of the Act , Rs/ kWh energy charge as determined</p>	<p>3. Definitions and Interpretation</p> <p>(y) 'Reference Charge Rate' or 'RR' means (i) in respect of a general seller whose tariff is determined or adopted or approved under Section 62 or Section 63 or Section 86(1)(b) of the Act , Rs/ kWh energy charge as determined or adopted or approved by the Appropriate Commission, or (ii)</p>	

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	<p>or adopted or approved by the Appropriate Commission, or (ii) in respect of a general seller whose tariff is not determined or adopted or approved under Section 62 or Section 63 or Section 86(1) (b) of the Act, and selling power through power exchange(s), the price as discovered in the power exchange for the respective transaction; or (iii) in case of captive consumption of a captive generating plant based on resources other than renewable energy sources, the weighted average ACP of the Integrated-Day Ahead Market segments of all the Power Exchanges for the respective time block; or (iv) in case of multiple contracts or transactions including captive consumption, the weighted average of the reference rates of all such contracts or transactions.</p>	<p>in respect of a general seller whose tariff is not determined or adopted or approved under Section 62 or Section 63 or Section 86(1) (b) of the Act, and selling power through power exchange(s), the price as discovered in the power exchange for the respective transaction; or (iii) in respect of a general seller selling power through open access to a third party or in case of captive consumption of a captive generating plant based on resources other than renewable energy sources, the weighted average ACP of the Integrated-Day Ahead Market segments of all the Power Exchanges for the respective time block; or (iv) in case of multiple contracts or transactions including captive consumption, the weighted average of the reference rates of all such contracts or transactions.</p>	

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4.	<p>(8) The charges for deviation by way of injection of infirm power shall be zero:</p> <p>Provided that if infirm power is scheduled after trial run as specified in the Grid Code, the charges for deviation over the scheduled infirm power shall be as applicable for a general seller or WS seller, as the case may be.</p>	<p>(8) The charges for injection of infirm power shall be zero:</p> <p>Provided that if infirm power is scheduled after a trial run as specified in the Grid Code, the charges for deviation over the scheduled infirm power shall be as applicable for a general seller or WS seller, as the case may be:</p> <p>Provided further that when the system frequency, $f > 50.05\text{Hz}$, the charges for deviation of scheduled infirm power by way of over injection by a general seller or WS seller, as the case may be, shall be zero.</p>	<p>Thermal Generation Stations</p> <ul style="list-style-type: none"> • The IEGC, 2023 allows one year time frame for injection of infirm power from the first synchronization. Allowing 180 days to a year has been the practice being followed by CERC before the promulgation of the Electricity Act, 2003 and subsequent to its promulgation as well. Even the proposed amendment to the IEGC Regulations also continues with the same one year period. Thermal generating stations as per the extant rules of the Central Govt., are not entitled for supply of linkage coal till declaration of COD. In other words, testing and commissioning activities have to be carried out by consuming alternate costlier domestic or imported coal. The regulatory regime prior to the proposed draft DSM Regulations has always allowed recovery of some amount towards fuel expenses for the infirm energy injected into the grid. Such recovery was in the form of actual fuel cost or applicable UI/DSM rates. There was no situation where a generating company is subjected to non-recovery of any amount for the infirm energy injected into the grid. The proposed regulation, which renders the conventional generating stations to supply infirm energy without it being scheduled and recovering any revenue results in the following: <ul style="list-style-type: none"> ○ A section 62 generating station or a section 63 generating station will face

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			<p>serious financial constraint in conducting testing and commissioning activities and completing the trial run operation as there will be no source for funding fuel expenses. Normally fuel expenses are not funded by the lenders.</p> <ul style="list-style-type: none"> ○ In respect of a sec. 62 generating station the entire fuel expenses incurred on infirm energy will get added to the capital cost rendering the end consumer to pay about 8-10 paise/unit higher capacity charge for the entire term of the PPA. ○ In case of a sec. 63 generating station since there is no recovery of revenue on the infirm energy injected, it will make the generating company unviable. <p>In our view, adoption of such diagonally opposite concept by the CERC is not in the interest of any stakeholders of the power sector. This will be detrimental to the consumer interest as it may result in increase of cost or delay in capacity additions. The Hon'ble Commission is requested to keep in mind the capacity addition program of the Central Govt. which envisages about 80 GW of capacity addition of coal based power plants.</p> <p>As the Hon'ble Commission is aware, the Electricity Act, 2003 provides for procurement of power under both sec. 62 and sec. 63 routes</p>

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			<p>by a distribution licensee. Therefore, unless the proposed regulation is revised and the scheduling of infirm power is permitted there will be serious impact on the said capacity addition program of the Central Govt.</p> <p>The Commission is also required to bear in mind that most of the SERCs adopt the regulation of CERC and as a result the state generating companies may also be subjected to serious financial constraints if similar regulations as the one proposed by CERC are adopted by the SERCs.</p> <p>In light of the above, we request the Hon'ble Commission to allow schedule of infirm power as is being permitted vide suo-motu order 1/SM/2023 dated 06.02.2023 in order to ensure the safety and security of the grid. There is need to ensure certainty in the regulatory regime to garner more investment in the power sector. As there has been no change in the situation from 2023 to 2024, there is no justification to deviate from the concept adopted by CERC in its suo-motu order dated 06.02.2023.</p> <ul style="list-style-type: none"> • It is humbly submitted that there should not be any limit on the injection of infirm power in case of REGS/ESS, at any grid frequency, as the generation of power is dependent on

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			<p>uncontrollable parameters such as solar irradiation/ wind velocity/ etc.</p> <ul style="list-style-type: none"> • Restriction on injection of power from any REGS is not only against the mandate of promotion of Renewable Energy as mandated under Sec 61 (h) & 86(1) (e) of EA 20023 but also an opportunity loss for which can't be stored but eventually would be spared/wasted in such cases without any use of such energy.