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

Background:

It is important to understand the background for introducing the 1st Amendment to the DSM 2024 Regulation, particularly Regulation 8(8) concerning the scheduling of infirm power. In a meeting held by the Ministry of Power (MoP) on 14.09.2024, representatives from Renewable Energy (RE) developers, their associations, and the Association of Power Producers (APP) highlighted that the DSM 2024 Regulation currently does not permit the scheduling of infirm power. This restriction has led to significant cost implications for both RE and non-RE generation sources. The NTPC representative also pointed out the adverse cost impact on end consumers.

Meanwhile, Grid India emphasized that scheduling of infirm power should only be allowed once firm generation capacity is established or known. Taking these factors into consideration, the MoP recommended that the Central Electricity Regulatory Commission (CERC) consider deferring the implementation of Regulation 8(8) in the meantime and decide the matter in consultation with all stakeholders. In essence, the MoP advised the CERC to amend the DSM 2024 Regulation to address the concerns of both RE and non-RE power developers. The CERC was advised to specify separate regulations for RE and non-RE power regarding the scheduling of infirm power.

Against this background, we are surprised to note that the Hon'ble CERC has retained the original provision of the DSM 2024 Regulation concerning the scheduling of infirm power. In the draft regulation, no separate dispensation has been provided for RE and non-RE generators as advised by the MoP, nor has any clarification been given to allow the scheduling of infirm power.

Comments & Suggestions:

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

1) **Treatment of Thermal Generating Stations**

a. The proposed DSM 2024 Regulation states that infirm power can only be scheduled after the completion of trial run. This is in complete deviation from the earlier DSM framework. The Statement of Reasons of the DSM Regulations 2022 had quoted the following:

> "*"The Commission would like to emphasise that going forward, every grid connected entity is mandated to adhere to schedule. In such a scenario, injection of infirm power without corresponding buyer will lead to imbalance in the system. The basic message is that the generators should make necessary arrangements for scheduled transaction of their infirm power. The Commission is of the view that sufficient avenues are available for the generators to sell their inform power in the market. Hence, the generators should explore those options rather than using grid as a market for injection and obtaining compensation."*

Evident from the above, the Hon'ble Commission had supported the need for generators to make necessary arrangements to schedule their infirm power.

b. The above approach was carried forward in CERC's suo moto order dated 06.02.2023, which provided that – "*"upon such infirm power being scheduled, the charges for deviation for such power shall be applicable for a general seller".* Thus, the proposed DSM 2024 Regulation is also in complete deviation to the approach in this Hon'ble Commission's Suo-Motu order 1/SM/2023 dated 06.02.2023 wherein the Commission had clearly stated that allowing scheduling of infirm power is very essential in order to ensure safe and secure operation of grid.

c. The Draft DSM Regulations 2024 (issued by CERC on 30th April 2024) did not make any changes and limited itself to suo moto order.

d. 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.

e. It may be noted that the IEGC, 2023 allows a one-year timeframe for the injection of infirm power from the first synchronization. Allowing 180 days to a year for injection of infirm power has been the practice followed by CERC both before and after the promulgation of the Electricity Act, 2003. Even the proposed amendment to the IEGC Regulations continues with the same one-year period.

f. Under the extant rules of the Central Government, thermal generating stations are not entitled to the supply of linkage coal until the declaration of COD. In other words, testing and commissioning activities must be carried out using alternative, more expensive domestic or imported coal. The regulatory regime prior to the proposed draft DSM Regulations has always allowed recovery of some amount toward 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 scenario in which a generating company was subject to non-recovery of any amount for the infirm energy injected into the grid. The proposed regulation, which requires conventional generating stations to supply infirm energy without it being scheduled or any revenue recovery, results in the following:

    a. A section 62 or section 63 generating station will face serious financial constraints in conducting testing and commissioning activities and completing the trial run operation, as there will be no source of funding for fuel expenses. Fuel expenses are typically not funded by lenders.

    b. For a section 62 generating station, the entire fuel expense incurred on infirm energy will be added to the capital cost, leading end consumers to pay approximately 8-10 paise per unit higher capacity charges for the entire term of the PPA.

c. In the case of a section 63 generating station, since there is no recovery of revenue on the infirm energy injected, the financial viability of the generating company would be significantly impacted.

g. In our view, the adoption of such a diametrically opposite approach by the CERC is not in the interest of any stakeholders in the power sector. This will be detrimental to consumer interests, as it may lead to increased costs or delays in capacity additions. The Hon'ble Commission is requested to consider the Central Government's capacity addition program, which envisions the addition of around 80 GW of coal-based power plants over the next 7-8 years. Therefore, unless the proposed regulation is revised to permit the scheduling of infirm power, it will have a serious impact on the Central Government's capacity addition program.

h. The Commission may also consider that most SERCs adopt CERC's regulations. Consequently, if similar regulations as proposed by the CERC are adopted by the SERCs, state generating companies may face significant financial constraints.

i. **In light of the above, we request that the Hon'ble Commission allow the scheduling of infirm power for thermal generating stations, as permitted in the suo-motu order 1/SM/2023 dated 06.02.2023**. This will maintain regulatory certainty and help to attract further investment in the power sector. Since there has been no change in circumstances from 2023 to 2024, there is no justification for deviating from the approach adopted by CERC in its suo-motu order dated 06.02.2023.

2) <u>Treatment of RE Generating Stations</u>

a. As mentioned above, the proposed DSM 2024 Regulation completely deviates from the approach outlined in this Hon'ble Commission's Suo-Motu order 1/SM/2023 dated 06.02.2023, in which the Commission explicitly stated that allowing the scheduling of infirm power is crucial to ensure the safe and secure operation of the 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 CERC prohibits scheduling of infirm power. In our view such inconsistency and uncertainty in the regulatory regime is not desirable and it would adversely affect investment decisions, leading to serious implications on the Government of India's ambitious target to bring 500 GW of RE capacity by 2030.

b. We are aware of the concerns raised by Grid India, both in the meeting held on 14.09.2024 in MoP as well as in their comments submitted against the Draft DSM 2024 Regulations. Grid India's view is that scheduling of infirm power should only be considered after the firm capacity is established by a generating station.

c. In this regard we submit 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 would be injected into the Grid after trial run albeit with certain % of deviation depending upon various other factors.

d. We further submit that grid management may be easier if infirm power is also scheduled as the Grid operators will have a 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 the Grid Controller about the quantum of infirm power coming into the grid.

e. 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 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.**

A. Provisional Trial Run (Phase-I)

a. It is suggested to allow the completion of trial run in two phases, with the first phase being the provisional trial run.

b. 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.

c. 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. After successful completion of the Provisional Trial Run, the RE generator shall have established firm capacity along with communications and metering systems. Therefore, this provision shall help to align the DSM Regulations with the intent of the draft IEGC 1st Amendment Regulation which proposes to allow injection of infirm power for 45 days in respect of RE sources.

d. 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.

B. Final Trial Run (Phase-II)

a. 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.

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

f. The above suggested approach of two-phase completion of trial run will help to address various technical and practical difficulties being currently faced by RE generating stations for completing the various test requirements to demonstrate the compliance parameters as per CEA standards, such as:

   a. 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.

   b. 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.

   c. 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.

   d. 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.

   e. 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.

   f. 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.

   g. 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.

h. 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.

i. Hence, typically completion of PPC test requires 5 to 6 months for a large scale power plant equivalent to 500 MW.

j. However, it is important to bring to the notice of the Hon'ble CERC that there is need to specify separate technical standards for RE Gencos - the requirement of PPC testing may be reviewed in totality for RE Gencos, and fresh SOP/guideline may be issued in consultation with the RE developers.

3) <u>Differential treatment between Wind and Solar generators</u>

a. 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:

....”

b. 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.

c. 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 as proposed in the draft IEGC amendment which is yet to notified.

d. 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.

e. **Therefore, CERC is requested not to discriminate against 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.**

4) **Definition of Available Capacity**

a. The Draft Regulation has proposed the following change to the definition of Available Capacity:

'(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 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.'***

b. In this regard, it may be noted that the formula for computing % deviation is (Actual – Schedule)/ (Available Capacity). Therefore, limiting the available capacity to the quantum of connectivity granted shall cause increase in % deviation.

c. In solar plants, the developers resort to DC overloading to boost the CUF, and for that they incur more CAPEX towards installation of more modules.

d. 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.

e. **Therefore, it is requested to not amend the definition of 'Available Capacity'.**