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Sent: Mon, 31 Oct 2022 22:26:31 +0530 (IST)
Subject: Comments / suggestions on the Draft CERC (Indian Electricity
Grid Code) Regulations, 2022

To,

The Secretary,
Central Electricity Regulatory Commission
3rd & 4th Floor, Chanderlok Building,
36, Janpath, New Delhi- 110001

Dear Sir,

O2 Power is the fastest-growing renewables platform in India and was jointly established by Temasek (a Govt. of Singapore firm) and EQT Infrastructure (largest European equity fund) to develop utility-scale renewable energy projects with an initial commitment of up to US\$ 500 million. O2 Power was launched in [January 2020](#) and already awarded/acquired ~1.6 GW MW(AC) solar capacity from highly rated customers like NHPC, NTPC, SECI, GUVNL & RUMSL and having an Operational Capacity of ~400MWp, within 2 years of Inception. Company is also developing ~1.0 GW C&I / Merchant RE projects in the various states.

We sincerely appreciate Central Electricity Regulatory Commission's effort in promoting renewable energy in the country. We are grateful for your continued guidance, and assurance you have offered, in helping the renewable sector progress by enabling a robust and healthy environment to thrive in the country. We would like to thank you for the opportunity to raise our key concerns & suggestions on the Draft Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2022.

Please find attached our comments on the draft Regulations for kind consideration of the Hon'ble Commission.

Thanks & Regards,

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Comments / Suggestions on Draft Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2022.

Sr. No.	Existing Clause	Proposed Clause	Rationale
1.	<p><u>22. TRIAL RUN OF GENERATING UNIT</u> (3) Trial Run of Wind / Solar / Storage / Hybrid Generating Station</p> <p>(b) Successful trial run of a wind turbine(s) aggregating to 50 MW and above shall mean flow of power and communication signal for a period of not less than four (4) hours during periods of wind availability with the requisite metering system, telemetry and protection system in service. The generating company shall record the output of the unit(s) during the trial run and corroborate its performance with the wind speed recorded at site(s) during the day and plant design parameters: Provided that-</p> <p>(i) the output below the corroborated performance level with the wind speed of the day shall call for repeat of the trial run;</p> <p>(ii) if it is not possible to demonstrate the rated capacity of the plant due to insufficient wind velocity, COD may be declared subject to the condition that the same shall be demonstrated immediately when sufficient wind velocity is available after COD.</p>	<p><u>22. TRIAL RUN OF GENERATING UNIT</u> (3) Trial Run of Wind / Solar / Storage / Hybrid Generating Station</p> <p>(b) Successful trial run of a wind turbine(s) aggregating to 50 MW and above shall mean flow of power and communication signal for a period of not less than four (4) hours during periods of wind availability with the requisite metering system, telemetry and protection system in service. The generating company shall record the output of the unit(s) during the trial run and corroborate its performance with the wind speed recorded at site(s) during the day and plant design parameters: Provided that-</p> <p>(i) the output below the corroborated performance level with the wind speed of the day shall call for repeat of the trial run;</p> <p>(ii) if it is not possible to demonstrate the rated capacity of the plant due to insufficient wind velocity, COD may be declared subject to the condition that the same shall be demonstrated immediately when sufficient wind velocity is available after COD.</p>	<p>The COD of Wind Projects should not be linked with the trial run as developer has no control over the technical specification of WTG, which also takes a long time for stabilization.</p> <p>The COD may be considered in line of current practice of SECI or Other agencies, where it is dependent on the visibility of data at respective load dispatch centre and variation of meter reading within 24 Hrs of time.</p> <p>It is to be noted that in the initial phase of project, developer provide details of WTG make / model to respective agency as well as CEIG also verify the parameters before commissioning of project.</p> <p>As we know that the mentioned parameters / wind curve is subject to various condition, which are not in control of developer. Due to variation in Natural Resource & uncertain circumstances, it is difficult to justify / provide same parameters in line of power curve of WTG at the time of commissioning.</p> <p>Therefore, we request to consider COD of Wind Project should be continue based on existing practices.</p>

Sr. No.	Existing Clause	Proposed Clause	Rationale
2.	<p>Clause 30 (10) h</p> <p>(h) All generating stations mentioned in Table-4 (under clause (g) of this Regulation) shall have the capability of instantaneously picking up to a minimum 105% of their operating level and up to 105% or 110% of their MCR, as the case maybe, when the frequency falls suddenly and shall provide primary response. Any generating station not complying with the above requirements shall be kept in operation (synchronized with the regional grid) only after obtaining the permission of the concerned RLDC.</p>	<p>(h) All generating stations mentioned in Table-4 (under clause (g) of this Regulation) except Wind/Solar/Renewable Hybrid Energy Project shall have the capability of instantaneously picking up to a minimum 105% of their operating level and up to 105% or 110% of their MCR, as the case maybe, when the frequency falls suddenly and shall provide primary response. Any generating station not complying with the above requirements shall be kept in operation (synchronized with the regional grid) only after obtaining the permission of the concerned RLDC.</p>	<p>It is to be noted that Wind/Solar/Renewable Hybrid Projects do not have capability to operate at 105% or 110% of operating level when Solar insolation / Wind speed is not available at site. Moreover, MCR should not be applicable for RE.</p> <p>In view of same, 105% or 110% of MCR would be applicable on Thermal and Hydro units only and not on the wind, solar and hybrid of wind and solar projects.</p>

Sr. No.	Existing Clause	Proposed Clause	Rationale
3.	<p>Clause 30 (4) Control Hierarchy (9) Inertia:</p> <p>The power system shall be operated at all the times with a minimum inertia to be stipulated by NLDC so that minimum nadir frequency post reference contingency stays above the threshold set for under frequency load shedding (UFLS). NLDC shall reschedule generation including curtailment of wind, solar and wind-solar hybrid generation, if required, in coordination with the respective RLDCs and SLDCs to maintain the minimum inertia.</p>	<p>(9) Inertia:</p> <p>The power system shall be operated at all the times with a minimum inertia to be stipulated by NLDC so that minimum nadir frequency post reference contingency stays above the threshold set for under frequency load shedding (UFLS). NLDC shall reschedule generation including curtailment of wind, solar and wind-solar hybrid generation, if required, in coordination with the respective RLDCs and SLDCs to maintain the minimum inertia.</p> <p>Provided that curtailed wind, solar and wind-solar hybrid energy shall be given deemed generation status.</p> <p>Provided further that NLDC shall implement the transparent process for data posting related to curtailment of wind, solar and wind-solar hybrid energy to ensure that such curtailment with reason of grid security will be corroborated.</p> <p><u>Provided further that RE generators shall be provided compensation for generation loss in a particular time-block based on wind speed/ solar insolation level in that time-block</u></p>	<p>It has been seen in past that wind and solar generators connected with state grid have been facing frequent backing down instructions citing grid security and many such instructions are issued verbally without any written communications, and APTEL has also recognized the same in its order vide APPEAL NO. 197 of 2019 & IA NO. 1706 of 2019 dated 2nd August 2022, wherein it has directed that such state agencies shall pay the compensation during which curtailment instruction were issued for the reason other than grid security, at the PPA tariff along with interest.</p> <p>In view of same, it is requested to allow deemed generation status/ compensation mechanism for curtailing wind, solar and wind-solar hybrid energy as such generators is losing revenue under such events and such provisions restrict developers.</p>



Sr. No.	Existing Clause	Proposed Clause	Rationale
4.	Clause 30 (11) (U) All renewable energy generating stations and ESS shall be enabled with frequency controller to provide secondary control in accordance with the CEA Connectivity Standards and the communication system shall be established in accordance with the CEA Technical Standards for Communication.	Clarification required in the said clause	It is requested to clarify, whether it is mandatory requirement which RE generator /ESS are bound to comply as under CERC Ancillary Service Regulation 2022, SRAS/TRAS is to be provided on voluntary basis.
5.	Clause 40 (3). FIELD TESTING FOR MODEL VALIDATION TABLE 9: TESTS REQUIRED FOR POWER SYSTEM ELEMENTS....	Clarification required in the said clause	Please clarify whether these tests are mandatory to comply for existing projects? We understand that all future projects are required to comply before commissioning. Our request to applied the said clause for the future project, which will bid after implementation of IEGC Regulations.
6.	Clause (45) 10) Optimum Utilization of Hydro Energy and Solar Energy Additional Insertion	During high Solar isolation period, and if inverters have margin to increase solar generation by 5 to 10% of capacity, the same should be allowed.	Solar Projects are generally installed with high DC capacity and there may be scenarios wherein power limited to contracted capacity is flowing out and inverter having an inherent margin of 5 to 10% beyond the rated capacity. We request that the same should be allowed to inject like hydro power plant in case of high insolation period or shortage scenario.

Sr. No.	Existing Clause	Proposed Clause	Rationale
7.	<p>45. GENERAL PROVISIONS</p> <p>(11) Scheduling of renewable energy generating station by QCA</p> <p>(a) The regional entity renewable energy generating station(s) or Projects based on energy storage system(s) connected at a particular ISTS substation or at multiple ISTS substations may appoint a QCA on their behalf to coordinate and facilitate scheduling for such generating stations or energy storage system(s).</p> <p>(b) NLDC shall notify a procedure for aggregation of pooling stations for the purpose of combined scheduling and deviation settlement for wind or solar or renewable hybrid generating stations within six (6) months of notification of these regulations.</p>	<p>45. GENERAL PROVISIONS</p> <p>(11) Scheduling of renewable energy generating station by QCA</p> <p>(a) The regional entity renewable energy generating station(s) or Projects based on energy storage system(s) connected at a particular ISTS substation or at multiple ISTS substations may appoint a QCA on their behalf to coordinate and facilitate scheduling for such generating stations or energy storage system(s).</p> <p>(b) NLDC shall notify a procedure for aggregation at LDC level from the Central agency of pooling stations for the purpose of combined scheduling and deviation settlement for wind or solar or renewable hybrid generating stations within six (6) months of notification of these regulations.</p>	<p>We would like to suggest that forecasting should be done only at the centralized level respective RLDC / SLDC level for a given state.</p> <p>Since, there is little technical value addition due to forecasting at farm level, therefore need to remove the provision of doing forecasting at wind farm level.</p> <p>Forecasting at relevant LDC level should be a norm and all scheduling and commercial settlement also should be done at respective LDC level.</p> <p>Any commercial impact due to imbalance should be handled at LDC level only and same should be preferably socialized over grid costs or there should be some appropriate formula to share settlement with various developers over the state/region.</p>
8.	<p>Chapter 5:</p> <p>Commissioning and Commercial Operation Code Clause 3 (a)</p> <p>(3) Trial Run of Wind / Solar / Storage / Hybrid Generating Station</p> <p>(a) corroborated with the solar irradiation</p>	<p>(3) Trial Run of Wind / Solar / Storage / Hybrid Generating Station</p> <p>(a) corroborated with the solar irradiation recorded at site during the day and plant design parameters.</p> <p>For the trial run, a declaration shall be given by the generating company that no panel has been</p>	<p>Such condition is in contradiction with the condition mentioned in bidding documents being issued by the Central and State Government Implementing Agencies like SECI/NTPC/NHPC. Considering the same, we suggest not to incorporate the same.</p>

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	<p>recorded at site during the day and plant design parameters.</p> <p>For the trial run, a declaration shall be given by the generating company that no panel has been replaced or added or taken out or design of the plant has been altered:</p>	<p>replaced or added or taken out or design of the plant has been altered:</p>	
9.	<p>45. GENERAL PROVISIONS</p> <p>(15) A generating station including renewable energy generating station shall be allowed to draw power from ISTS during non-generation hours, whether before COD or after COD, only after obtaining schedule for such drawal of power in accordance with a valid contract entered into by it with a seller or distribution licensee or through power exchange.</p>	<p>45. GENERAL PROVISIONS</p> <p>(15) A generating station including renewable energy generating station shall be allowed to draw power from ISTS during non-generation hours, whether before COD or after COD, only after obtaining schedule for such drawal of power in accordance with a valid contract entered into by it with a seller or distribution licensee or through power exchange. can procure power from grid and same would be netted off with the energy injected into the grid in generating hours.</p>	<p>We would like to highlight that drawl power from ISTS during non-generation hours, whether before COD or after COD have many challenges to implement the same:</p> <ol style="list-style-type: none"> 1. Uncertainty in cost of generation as DISCOM tariffs are revised upward yearly. 2. Aux consumption for Solar is only around 0.1%, which for a typical solar plant size of 300 MW is lower than the minimum quantum required for obtaining OA to procure power from exchange. <p>Therefore, it is suggested that the existing arrangement as being applicable to the thermal generators, wherein the aux power is netted off with the energy sent out, be applied to the RE power generators as well.</p>

Sr. No.	Existing Clause	Proposed Clause	Rationale
10.	<p>47. PROCEDURE FOR SCHEDULING AND DESPATCH FOR INTER-STATE TRANSACTIONS (e) Requisition of schedule by buyers who are GNA grantees: (iii) The SLDC on behalf of the intra-State entities which are drawee GNA grantees, as well as other drawee GNA grantees while furnishing time block-wise requisition under this Regulation shall duly factor in merit order of the generating stations with which it has entered into contract(s): Provided that the renewable energy generating stations shall not be subjected to merit order despatch, and subject to technical constraints shall be requisitioned first followed by requisition from other generating stations in merit order.</p>	<p>47. PROCEDURE FOR SCHEDULING AND DESPATCH FOR INTER-STATE TRANSACTIONS (e) Requisition of schedule by buyers who are GNA grantees: (iii) The SLDC on behalf of the intra-State entities which are drawee GNA grantees, as well as other drawee GNA grantees while furnishing time block-wise requisition under this Regulation shall duly factor in merit order of the generating stations with which it has entered into contract(s): Provided that the renewable energy generating stations shall be treated as MUST RUN power plants and should not be subjected to curtailment due to merit order despatch as well as due to any commercial consideration.</p>	<p>It is requested that the existing Regulation 5.2 (u) of the IEGC should be retained. Wind and solar generators in the state of Andhra Pradesh, Tamil Nadu, Madhya Pradesh, Karnataka face severe backing down due to commercial reason in the past. The Regulation 5.2 (u) supported the RE generators in reducing the curtailment drastically. Hon'ble APTEL in its judgement on deemed energy compensation on curtailment in the Appeal No 197 of 2019 also took shelter of the said Regulations. Now the APSLDC and TANTRANSCO has challenged the said APTEL judgement in the Hon'ble Supreme Court, we request the Hon'ble Commission to retain the said Regulation.</p>
Chapter 1: Deemed ISTS Line (Additional insertion)	Additional Insertion	"Deemed Inter-State Transmission System (Deemed ISTS)" means the transmission system utilised to evacuate at least 75% of interstate power. Such transmission system should have received regulatory approval of the Commission as being used for interstate transmission of power and qualified the ISTS status from respective regional power committee.	There are many instances wherein transmission line being developed by State Transmission Utilities (STUs) or Intra State transmission licensees, and such transmission lines are mainly utilised to evacuate the Inter-State Power. Such transmission lines / system should be qualified as deemed ISTS under CERC IEGC Grid Code.