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To,
Secretary,
Central Electricity Regulatory Commission,
3rd & 4th Chanderlok Building 36, Janpath Rd,
New Delhi, Delhi 110001

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

Dear Sir,

This is with reference to the above subject where Hon'ble **Central Electricity Regulatory Commission (CERC)** has invited comments and suggestions on Draft Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2022. Our comments on the same has been annexed as Annexure-1.

We request the Hon'ble CERC to take our views on record.

Thanking You
Yours Sincerely,

Balaji Sivan,
Director- Policy Advocacy & Regulatory Affairs,
Sterlite Power, Gurugram, 122008, Haryana

Annexure-I

Sl. No.	Clause/ Page No.	Language as per Draft	Suggested modification in language	Rationale/ Remarks
1	Chapter 1, Clause 3	Tie-Line	Introduce definition of Tie-line	Tie Line is not defined under any regulation and even in the Electricity Act 2003, this creates ambiguity over its jurisdiction and management between CTU, STU, RLDC/SLDC/Owner of the line. So, a proposer definition needs to be brought in provide clarity over the responsibility of construction and maintenance of these lines.
2	Chapter 2, Clause 5 (2)	Demand Forecasting: (i) Each distribution licensee within a State shall estimate the demand in its control area including the demand of open access consumers and factoring in captive generating plants, energy efficiency measures, distributed generation, demand response, for the next five (5) years starting from 1st April of the next year and submit the same to the STU by 31stJuly every year. The demand estimation shall be done using trend method, time series, econometric methods or any state of the art methods and shall include daily load curve (hourly basis) for a typical day of each month.	Demand Forecasting: (i) Each distribution licensee within a State shall estimate the demand in its control area including the demand of open access consumers and factoring in captive generating plants, and estimation of demand **provided by the open access consumer,** energy efficiency measures, distributed generation, demand response, for the next five (5) years starting from 1st April of the next year and submit the same to the STU by 31stJuly every year. The demand estimation shall be done using trend method, time series, econometric methods or any state of the art methods and shall include daily load curve (hourly basis) for a typical day of each month.	It will be difficult for the discoms to predict the demand of an open access consumer, as the nature of consumption of energy by an Open Access consumer may change due to capacity expansion or any other factor, which may be internal to the open access consumer. So, allowing the Open Access consumer to submit its projected tentative demand will be a right approach for gauging the rise in demand.

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3	Chapter 5, Clause 19	DRAWAL OF START UP POWER AND INJECTION OF INFIRM POWER	Request to make provision for allowing Discoms to provide connection to Generators connected through ISTS grid for drawl of Start-up Power.	There is a lot of ambiguity over the connection to be provided by Discom to generator for drawl of start-up power. The connection to a generator should be through a separate connection or from the same line connecting the generator to the ISTS grid, is an rea of concern, as due to lack of proper guideline the startup connection is delayed by discoms
4	Chapter 5, Clause 20	DATA TO BE FURNISHED PRIOR TO NOTICE OF TRIAL RUN	Request to modify the format as per the generation source to make it more inclusive and align with the changing technology and configurations. This will remove ambiguity to developers who have to provide information for their generating source in a universal format which might not fully include their setup like use of Hydro and Solar, or wind with ESS or thermal with solar behind the meter.	
5	Chapter 5, Clause 22 (3)(a)	Successful trial run of a solar inverter unit(s) aggregating to 50 MW and above shall mean flow of power and communication signal for not less than the period between sunrise to sunset in a single day 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 its performance shall be corroborated with the solar irradiation recorded at site during the day and plant design parameters. 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:	Successful trial run of a solar inverter unit(s) aggregating to **25 ~~50~~ MW** and above shall mean flow of power and communication signal for not less than the period between sunrise to sunset in a single day 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 its performance shall be corroborated with the solar irradiation recorded at site during the day and plant design parameters. 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:	Request to allow capacity of 25 MW to declare commissioning, as commissioning of capacity aggregating to 50 MW leads to huge wastage as achieving such size takes some time, during which the modules which are already installed, start generating of power.

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5	Chapter 5, Clause 22 (3)(a)	Successful trial run of a solar inverter unit(s) aggregating to 50 MW and above shall mean flow of power and communication signal for not less than the period between sunrise to sunset in a single day with the requisite metering system, telemetry and protection system in service	Successful trial run of a solar inverter unit(s) aggregating to **25 ~~50~~ MW** and above shall mean flow of power and communication signal for not less than the period between sunrise to sunset in a single day with the requisite metering system, telemetry and protection system in service	Request to allow capacity of 25 MW to declare commissioning, as commissioning of capacity aggregating to 50 MW leads to huge wastage as achieving such size takes some time, during which the modules which are already placed in the field start generation of power.
6	Chapter 5, Clause 22 (3)(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	Successful trial run of a wind turbine(s) **located Offshore or Onshore** aggregating to **25 ~~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	Request to allow capacity of 25 MW to declare commissioning, as commissioning of capacity aggregating to 50 MW leads to huge wastage as achieving such size takes some time, during which the individual turbines will have to be made ideal for generation.. A clear inclusion of onshore and offshore wind turbine will bring a regulatory certainty as offshore projects are still in planning stage and government is working way hard to attract investment in such segment
7	Chapter 5, Clause 22 (3)(c)	Successful trial run of a standalone Energy Storage System (ESS) shall mean one (1) cycle of charging and discharging of energy as per the design capabilities with the requisite metering, telemetry and protection system being in service	Please clarify if the developer of ESS need to follow any guideline for designing the system or the developer have to declare its design capabilities as per some pre-defined format?	A clarity is need over the designing of the ESS and commissioning as the ESS may not be giving the same output which is being provided as input due to inherited cycle losses. Eg- a BESS being charges with input energy of 250 MW for an hour may not be giving same output owing to losses on account of efficiency of energy conversion of BESS and system losses.

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8	Chapter 5, Clause 22 (3)(d)	Successful trial run of a pumped storage plant shall mean one (1) cycle of turbogenerator and pumping motor mode as per the design capabilities upto the rated water drawing levels with the requisite metering, telemetry and protection system being in service	Please clarify if the developer of ESS need to follow any guideline for designing the system or the developer have to declare its design capabilities as per some pre-defined format?	A clarity is need over the designing of the ESS and commissioning as the ESS may not be giving the same output which is being provided as input due to inherited cycle losses.Eg- A PSP being charges with input energy of 200 MW for an hour may be giving output of only 200 MW for an hour owing to its cycle efficiency of 80%. There will be loss of energy on account of efficiency of Pumping power and system losses.
9	Chapter 5, Clause 22 (3)(e)	Successful trial run of a hybrid system shall mean successful trial run of individual source of hybrid system in accordance with the applicable provisions of these regulations.	Successful trial run of a hybrid system shall mean successful trial run of individual source of hybrid system in accordance with **their declared configuration with agreegate capacity of minimum 25 MW** ~~the applicable provisions of these regulations~~.	Hybrid Co-located power plants have different configurations and may not be compliant to provision of each indivial source for trial run. Eg- A Developer with Wind solar hybrid project of 100 MW can connect to the ISTS network, but the individual configuration may be in range of 33% minimum of contracted capacity for solar and wind, which translate that one of the source may be only 33 MW which is lower than 50 MW set in Clause 22 (3)(b)
10	Chapter 5, Clause 26	DECLARATION BY GENERATING COMPANY AND TRANSMISSION LICENSEE	Request to allow director of the Company to sign and submit the documents.	As the project may be executed through an SPV, which at a time may not have designated CEO, MD or CMD, and may have only Directors appointed as per the provision of the Company Act 2003.

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11	Chapter 5, Clause 27 (1)(e)	The commercial operation date in case of units of a renewable generating station aggregating to 50 MW and above shall mean the date declared by the generating station after undergoing successful trial run as per clause (3) of Regulation 22 of these regulations, submission of declaration as per clause (4) of Regulation 26 of these regulations, and subject to fulfilment of other conditions, if any as per PPA.	The commercial operation date in case of units of a renewable generating station aggregating to **25 ~~50~~ MW** and above shall mean the date declared by the generating station after undergoing successful trial run as per clause (3) of Regulation 22 of these regulations, submission of declaration as per clause (4) of Regulation 26 of these regulations, and subject to fulfilment of other conditions, if any as per PPA.	Request to allow capacity of 25 MW to declare commissioning, as commissioning of capacity aggregating to 50 MW leads to huge wastage as achieving such size takes sometime, during which the modules which are already placed in the field start generating power.
12	Chapter 7, Clause 43	Entities connected to both inter-State transmission system and intra-State transmission system shall be under control area jurisdiction of RLDC, if more than 50% of quantum of connectivity is with ISTS, and if more than 50% of the quantum of connectivity is with intra-State transmission system, then it shall be under control area jurisdiction of SLDC	~~Entities~~ **Distribution Licensee/Generating Plant/ Captive Consumer/ Open Access Consumer/ Captive Plant/ Bulk Consumer/ ESS** connected to both inter-State transmission system and intra-State transmission system shall be under control area jurisdiction of RLDC, if more than 50% of quantum of connectivity **or GNA** is with ISTS, and if more than 50% of the quantum of connectivity is with intra-State transmission system, then it shall be under control area jurisdiction of SLDC	A detailed clarification is needed on jurisdiction as there is a growing trend of Captive Consumers/generators and Open Access Consumers shifting their connectivity to ISTS grid due to multiple reasons, are facing issue over clarification required for jurisdiction of RLDC or SLDC. Since in GNA Regulation Bulk Consumers/Distribution Licensee will have GNA and not connectivity so inclusion of GNA will remove ambiguity for Bulk Consumer/Distribution Licensee

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13	Chapter 7, Clause 47(1)(	Entities connected to both inter-State transmission system and intra-State transmission system shall be under control area jurisdiction of RLDC, if more than 50% of quantum of connectivity is with ISTS, and if more than 50% of the quantum of connectivity is with intra-State transmission system, then it shall be under control area jurisdiction of SLDC	~~Entities~~ **Distribution Licensee/Generating Plant/ Captive Consumer/ Open Access Consumer/ Captive Plant/ Bulk Consumer/ ESS** connected to both inter-State transmission system and intra-State transmission system shall be under control area jurisdiction of RLDC, if more than 50% of quantum of connectivity **or GNA** is with ISTS, and if more than 50% of the quantum of connectivity is with intra-State transmission system, then it shall be under control area jurisdiction of SLDC	A detailed clarification is needed on jurisdiction as there is a growing trend of Captive Consumers/generators and Open Access Consumers shifting their connectivity to ISTS grid due to multiple reasons, are facing issue over clarification required for jurisdiction of RLDC or SLDC. Since in GNA Regulation Bulk Consumers/Distribution Licensee will have GNA and not connectivity so inclusion of GNA will remove ambiguity for Bulk Consumer/Distribution Licensee
14	Chapter 7, Clause 47(1)(a)(iv)	(iv) The renewable energy generating station, individually or represented by a lead generator or QCA, shall submit aggregate available capacity of the pooled generation and aggregate schedule along with contract-wise breakup for each time block for 0000 hours to 2400 hours of the 'D' day, by 6 AM on 'D-1' day.	(iv) The renewable energy generating station, individually or represented by a lead generator or QCA, shall submit aggregate available capacity of the pooled generation **connected to ISTS Network in a Region** and aggregate schedule along with contract-wise breakup for each time block for 0000 hours to 2400 hours of the 'D' day, by 6 AM on 'D-1' day.	Aggregation of schedule helps in proper management of grid as the variation in generation from renewable source is balanced when aggregated over a wider area. State of Andhra Pradesh and Karnataka has allowed aggregation of schedule from renewable generators connected to State Grid called Virtual Pooling. This allow the System operator to manage the grid with ease as the exact variation in the grid is mapped and also benefit the generator in form of lower DSM penalty

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15	Additional Comment	**An applicant, defined as Critical load like Smelters, Arc Furnaces, Semiconductors fabrication units & Data Centers etc, applying for GNA will be allowed for connectivity with CTU and maintain STU/Discom simultaneously with suitable protection system or with islanding scheme**	Critical load like smelters Data Centers etc. have huge power requirement and are susceptible to any disruption in supply of power. These Critical loads have least or no backup system to supply during disruption from one source, these make it important to have dual connectivity to draw power in the shortest possible time to protect their equipment's during any emergency. Dual connectivity can be allowed with suitable islanding system of keeping the ICT open from one source. The consumer should be allowed to maintain minimum load quantum connectivity at required voltage and draw power only with intimation to SLDC/RLDC/ DISCOM etc.	