



सोलर एनर्जी कॉर्पोरेशन ऑफ इंडिया लिमिटेड  
(भारत सरकार का उपक्रम)  
**Solar Energy Corporation of India Ltd.**  
(A Government of India Enterprise)

स्वच्छ भारत - स्वच्छ ऊर्जा



No. SECI/PS/IEGC/2022/50415

02.08.2022

To

**Shri. Harpreet Singh Pruthi**  
Central Electricity Regulatory Commission  
3rd & 4th Floor, Chanderlok Building  
36, Janpath, New Delhi-110001

**Sub: Comments on the Draft Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2022**

With reference to Public Notice No. No. L-1/265/2022/CERC dated 07.06.2022 inviting comments/suggestions to the Draft Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2022 published by the Honourable Commission, please find enclosed comments/suggestions on the same from Solar Energy Corporation of India Limited (SECI).

Thanking You,

Yours faithfully,

  
(Kaustuv Roy)  
GM (Projects)

Encl : Annexure 1: Comments/Suggestions to the Draft IEGC 2022

Comments/Suggestions on Draft IEGC, 2022 from SECI

S. No.	Clause No.	Clause	Alternate/ Suggestions
1.	3 (1)	Definitions  'Blackout State': means a condition at a specific time where a part or all the operations of the power system have got suspended	'Blackout State': means a condition at a specific time where a part or all the operations of the power system have got <b>de-energized</b>
2.	3 (1)	Definitions: Generating Unit means a) for all generating stations except solar photo voltaic, wind and hybrid stations, an electrical generator coupled to a prime mover within a power station together with all plant and apparatus at the power station which relate exclusively to operation of that turbo-generator; b) for solar photo voltaic generating stations including hybrid, each inverter along with associated modules shall be reckoned as a separate generating unit; c) for wind generating stations including hybrid: each wind turbine generator with associated equipment shall be reckoned as a separate generating unit ;	Generating Unit means a) for all generating stations except solar photo voltaic, wind and hybrid stations, an electrical generator coupled to a prime mover within a power station together with all plant and apparatus at the power station which relate exclusively to operation of that turbo-generator; b) for solar photo voltaic generating stations including hybrid, each inverter along with associated <b>photovoltaic Modules and other equipment</b> shall be reckoned as a separate generating unit; c) for wind generating stations including hybrid: each wind turbine generator with associated equipment shall be reckoned as a separate generating unit;
3.	3 (1)	Definitions:  Intermediary Procurer (New Definition)	<b>Intermediary Procurer</b> <b>means any entity that procures power from single / multiple generating stations and sells to single / multiple buyers. The intermediary procurer shall also be a beneficiary as defined in S. No. 9.</b>

4.	21 (1)	<p>Notice of Trial Run:</p> <p>(1) The generating company proposing its generating station or a unit thereof for trial run or repeat of trial run shall give a notice of not less than seven (7) days to the concerned RLDC and the beneficiaries of the generating stations wherever identified. The concerned RLDC shall commence the trial run from the requested date or in case of any system constraints not later than seven (7) days from the proposed date of trial run. The trial run shall commence from the time and date as decided and informed by the concerned RLDC.</p>	<p>Notice of Trial Run:</p> <p>(1) The generating company proposing its generating station or a unit thereof for trial run or repeat of trial run shall give a notice of not less than seven (7) days to the concerned RLDC and the beneficiaries/<b>intermediary procurers</b> of the generating stations wherever identified. The concerned RLDC shall commence the trial run from the requested date or in case of any system constraints not later than seven (7) days from the proposed date of trial run. The trial run shall commence from the time and date as decided and informed by the concerned RLDC.</p>
5.	22 (3)	<p>(3) Trial Run of Wind / Solar / Storage / Hybrid Generating Station</p> <p>(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 .....</p>	<p>(3) Trial Run of Wind / Solar / Storage / Hybrid Generating Station</p> <p>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 <b>and temperature</b> 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.....</p>

			<b>Alternatively,</b> minimum Performance Ratio (PR) may be mentioned which is international standard for the plant performance and can refer to the relevant IEC/IS code (IEC 61724)
6.	24 (6)	(6) Documents and Tests Required for Energy Storage Systems: (a) The ESS shall submit certificate confirming compliance to the CEA Technical Standards for Connectivity. (b) The following tests shall be performed: (i) Power output capability in MW and energy output capacity in MWh. (ii) Frequency response of ESS. (iii) Ramping capability as per design.	(6) Documents and Tests Required for Energy Storage Systems: (a) The ESS shall submit certificate confirming compliance to the CEA Technical Standards for Connectivity. (b) The following tests shall be performed: (i) Power output capability in MW and energy output capacity in MWh. (ii) Frequency response of ESS. (iii) Ramping capability as per design. <b>(c) Grid-forming capability, wherever provided, in inverter based units that may be used as black start resource.</b>
7.	30 (4) (b)	(b) Black Start reserves:  Generating stations, having black start capability shall be identified by NLDC and RLDCs to act as black start reserves.	(b) Black Start reserves:  Generating stations, <b>including energy storage systems</b> , having black start capability shall be identified by NLDC and RLDCs to act as black start reserves.
8.	30 (10) (g), Table 4	TABLE 4: PRIMARY RESPONSE OF VARIOUS TYPES OF GENERATING UNITS	Reference to BESS may be changed to ESS  With reference to the clarification provided by MoP in Jan 2022 that Standalone energy storage system activity will be delicensed at par with generation companies, Standalone ESS may be mandated to maintain Primary Reserves. Accordingly, following may be inserted:

			Standard ESS	100 MW and above	±5% of Rated Power Capacity	
9.	45 (11) (b)	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.				c. 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 <b>or Energy Storage Systems</b> within six (6) months of notification of these regulations.
10.	45 (11) (d)	d. QCA registered with the concerned RLDC shall, on behalf of wind, solar or renewable hybrid generating stations				d. QCA registered with the concerned RLDC shall, on behalf of wind, solar or renewable hybrid generating stations <b>or Energy Storage System</b>
11.	Annexure 1, 5 (i)	ANNEXURE - 1 THIRD PARTY PROTECTION SYSTEM CHECKING & VALIDATION TEMPLATE FOR A SUBSTATION  i. The settings and scheme adopted are in line with agreed protection philosophy or any accepted guidelines (e.g. Ramakrishna guidelines or CBIP manual based				ii. The settings and scheme adopted are in line with agreed protection philosophy or any accepted guidelines (e.g. Ramakrishna guidelines or CBIP manual based <b>or OEM recommendation/manual</b> ).

**SOLAR ENERGY CORPORATION OF INDIA LIMITED  
NEW DELHI**

**Comments on the draft Indian Electricity Grid Code Regulations**

Sr. No	Clause No.	Clause	Alternate Suggestions
1.	Annexure 1, 5 (i)	ANNEXURE - 1 THIRD PARTY PROTECTION SYSTEM CHECKING & VALIDATION TEMPLATE FOR A SUBSTATION  i. The settings and scheme adopted are in line with agreed protection philosophy or any accepted guidelines (e.g. Ramakrishna guidelines or CBIP manual based)	i. The settings and scheme adopted are in line with agreed protection philosophy or any accepted guidelines (e.g. Ramakrishna guidelines or CBIP manual based <b>or OEM recommendation/ manual</b> ).