



Date: September 30, 2022

Ref: PTC/Strategy/IGC/2022/

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

Subject: Comments on the draft “The Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2022 (IEGC-2022).

Dear Sir,

This is with reference to your letter (Ref No. L-1/265/2022/CERC dated. 7th June, 2022) for submission of comments on the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2022.

We believe the grid code to embody the primary operating principle(s) for participating in and managing the Indian Electricity Grid. Quite a few changes have been made in this draft IEGC-2022 (Grid Code) as compared with IEGC-2010 recognizing the current & future scenario of Indian Electricity Grid (Grid). Of course, the increasing integration of Renewable Power Projects into the Grid calls for greater discipline amongst all participants. Also, the added context of General Network Access (GNA) and the new Deviation Settlement Mechanism (DSM) provided another overlay to the operating environment for implementing these regulations.

We believe that since we are looking at introducing a Grid Code for the future, it might be worthwhile to introduce a credible entity with adequate financial and technical expertise i.e., an “Aggregator”. The Grid Code should recognize the Aggregator as equivalent to a grid connected entity to enable it for scheduling of power from multiple generators as an aggregator and from the Aggregator to buyer(s). The Aggregator takes on the responsibility of the obligations to comply with the Grid Code like other participants. Given the proliferation of variable renewable energy (VRE) plants and distributed generation resources (DER), we believe the Indian Electricity Grid is now advanced to incorporate such entities. To begin with, Category I Trading Licensees may be allowed to function as the Aggregator entities.

You are requested to kindly consider the enclosed annexure (Annexure-A) of our detailed comments for your kind reference and perusal. If deemed appropriate, we are also available for an in-person interaction to clarify any aspect.

Thanking you,

Yours faithfully,
For **PTC India Ltd.**

Rajesh Cherayil
Chief Strategy Officer

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(Annexure-A)

Comments about certain clauses which needs further deliberation have been given below:

| S.NO. | Clause | Remarks |
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| 1. | Chapter 1-3 "Preliminary" | Introduce the definition of the "Aggregator". The Grid Code should recognize the Aggregator as equivalent to a grid connected entity to enable it for scheduling of power from multiple generators as an aggregator and from the Aggregator to buyer(s). The Aggregator takes on the responsibility of the obligations to comply with the Grid Code |
| 2. | As per clause 43.5, "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" | We believe that it is a technical oversight but the unique case of equal connectivity with inter-state and intra-state systems should be clearly addressed. It is ambiguous as per the current draft the ownership/responsibility of control area jurisdiction if 50% quantum of connectivity is with the inter-state transmission system (ISTS) & 50% of the quantum of connectivity is with intra-State transmission system. |
| 3. | As per clause 44.1.b, "Forecasting of generation from wind and solar generating stations, which are regional entities, for each time block on day-ahead and intraday basis: Provided that such forecasts may be used by the wind and solar generating stations at their own risk and discretion along with all commercial liabilities arising out of it" | As forecasting of generation from wind and solar generating stations shall be done at the level of regional load dispatch centres (RLDC), specific details may be provided on the parameters, historical data and data to be captured as well as the forecasting tool(s) to be used so that the end users have the necessary clarity. |
| 4. | As per clause 45.10.(b), "During high inflow and water, the concerned spillage conditions RLDC shall allow scheduling of power from hydro generating stations for the overload capability up to 10% of Installed capacity without the requirement of additional GNA for such overload capacity, subject to availability of margins in the transmission system" | Specific gaps in specified time blocks should be mentioned in the clause so that after the information is given by the generator, RLDCs may take the decision & allow the generator to undertake the revision in schedule. |
| | As per clause 45.15., "A generating station including renewable energy generating station | As per the clause "non-generation hours "is currently not defined and |

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| 5. | 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” | therefore, it should have a clear definition in the Grid Code. As per the current provision, generating stations can buy the power only in case of forced outage through real time markets (RTM) on the power exchanges. So, this may create an ambiguity. |
| 6. | As per clause 46.4.(b) “Beneficiaries of such stations, whose units are likely to be scheduled below minimum turndown level for some or all time blocks of the D day, shall be permitted to revise their requisitions from such stations by 1630 Hrs of D-1 day, in order to enable such units to be on bar. The revised requisition from the said generating stations, once confirmed by the beneficiaries by 1630 Hrs of D-1 day, shall be final and binding after 1630 Hrs of D-1 day and further reduction in drawal schedule shall not be allowed from such stations for such time blocks” | As per the clause, beneficiaries cannot revise the schedule after 16:30 hours of D-1 day even after paying the fixed cost as per Declared Capacity. In this case, beneficiary is subject to a loss so revision rights should remain with the beneficiary even after 1630 hours. |
| 7. | As per clause 46.4.(d)” If the NLDC in coordination with RLDCs, after considering the bid results as finalized and available from DAM-AS, anticipates shortfall of reserves in D day due to (i) extreme variation in weather conditions; (ii) high load forecast; (iii) the requirement of maintaining reserves on regional or all India basis for grid security; (iv) network congestion, NLDC may schedule incremental energy from the generating units in the list referred to in sub-clause (c) of clause 4 of this Regulation, so as to bring such units to their minimum turndown level, in order to maximize availability of on-bar units, by 1800 Hrs. of D-1 day and update the list on the respective RLDC website. | NLDC should be allowed to schedule incremental energy above the minimum turndown level so it will be economically viable for the generating station. |
| 8. | As per clause 46.4.(f) ” The generating station from which incremental energy has been scheduled as per sub-clause (d) of clause 4 of this Regulation shall be paid from the Deviation and Ancillary Services Pool Account, for the energy charge equivalent to the incremental energy scheduled, and the generating station from which reduction in generation has been directed as per sub-clause (e) of clause (4) of this Regulation shall pay back to the Deviation and Ancillary Services Pool Account, the energy charge equivalent to the decremental energy” | The level of energy charge to be paid for the incremental energy as well as the mechanism for its calculation needs to be clearly specified. As of now, this clause is not elaborate. |

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| <p>9.</p> | <p>As per clause 46.4.(h).(ii)" In case a generating station, or unit thereof, opts to go under unit shut down (USD), the generating company owning such generating station or unit thereof shall fulfil its obligation to supply electricity to its beneficiaries who had made requisition from the said generating station prior to it going under USD, by entering into a contract(s) covered under the Power Market Regulation or by arranging supply from any other generating station or unit thereof owned by such generating company subject to honouring of rights of the original beneficiaries of the said generating station or unit thereof from which supply is arranged"</p> | <p>It is unclear if prior consent of beneficiaries is going to be required before entering the contract. The sharing of the cost of contract and its management is also not clearly specified. If no arrangement of contract was done to fulfill the obligation of beneficiaries, then it may be specified if the generating station may opt to go under shut down (USD).</p> |
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| <p>10.</p> | <p>As per clause 47.1.(a)'' The following scheduling related activities shall be carried out on daily basis for regional entities, on day ahead basis, 'D-1' day, for supply of power on 'D' day, as follows: (a) Declaration of Declared Capacity by generating stations: (i) The generating station based on coal and lignite shall submit the following information for 0000 hours to 2400 hours of the 'D' day, by 6 AM on 'D-1' day, : (a) Time block-wise On-bar Declared Capacity (MW) for on-bar units; (b) Time block-wise Off-bar Declared Capacity (MW) for off-bar units; (c) Time block-wise Ramp up rate (MW/min) for on-bar capacity; (d) Time block-wise Ramp down rate (MW/min) for on-bar capacity; (e) MWh capability for the day; (f) Minimum turndown level (MW) and in percentage (%) of ex-bus capacity on-bar;</p> | <p>Time block-wise Ramp up rate, Ramp-down rate, minimum turndown level may not be declared daily as these parameters remain the same on a rolling basis. After giving these values initially, the only declaration may be provided whenever there is a change in the value of these parameters from their initially declared values.</p> |
| <p>11.</p> | <p>As per clause 47.1.(i)'' The generating station whose tariff is determined under Section 62 of the Act, may sell its unrequisioned surplus as available at 10 AM in the day ahead market''</p> | <p>The understanding that no prior consent of buyers/beneficiaries shall be required for selling of un-requisitioned surplus (URS) has not been mentioned in the clause. So, the same may be clarified with an explicit provision.</p> |
| <p>12.</p> | <p>As per clause 47.1.(n).(ii) ''The window for trade in real-time market for day (D) shall open from 22.45 hrs to 23.00 hrs of (D-1) for the delivery of power for the first two time-blocks of 1st hour of day (D) i.e., 00.00 hrs to 00.30 hrs, and will be repeated every half an hour thereafter''</p> | <p>As per prevailing regulations, the time for real time market (RTM) bidding in half-hour on the power exchanges is working effectively without causing any hassle to the market participants. Therefore, it is proposed that the same may be continued instead of the proposed smaller granular block of 15-minute time-blocks. We believe that this provision of half-hour bidding should be continued & not revised to the proposed 15 minutes</p> |

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| | | time-block as we believe that having a half-hour bidding timeline gives reasonable time to the system operator as well as the participants to forecast & place the bids in stipulated time. |
| 13. | As per clause 47.3.(b) "In the event of bottleneck in evacuation of power due to outage, failure or limitation in the transmission system or any other constraint necessitating reduction in generation, the RLDC shall revise the schedules. Provided that generation and drawal schedules revised by the Regional Load Despatch Centre shall become effective from 7th block or 8th block depending on time block in which schedule has been revised as first time block | Since schedule can be revised only for the 7 th /8 th time-block, schedule in the first to sixth time-block shall be deemed to be revised to actual generation so that heavier penalty to seller due to variation in schedule as per extant DSM regulations can be avoided. Also, first proviso should be clarified to read as "Provided that generation and drawal schedules revised by the Regional Load Despatch Centre shall become effective from the 7th time-block if revision in schedule is made in odd time blocks. Also, the said revision shall be become effective in the 8th block if revision in schedule is made in even time blocks based on which schedule has been revised as the first time block." |
| 14. | As per clause 47.8.(a) "All regional entities, open access customers, injecting entities and drawee consumers may closely check their transaction Schedule and point out errors, if any, to the concerned LDC" | This clause should be read as "All regional entities, open access customers, trading licensees, injecting entities and drawee consumers may closely check their transaction schedule and point out errors, if any, to the concerned LDC." |
| Some of the important clauses which are missing in IEGC -2022 but form a part of the current IEGC-2010 are mentioned below. We believe that they need to be incorporated in IEGC-2022 for better planning | | |
| 1. | As per clause 6.5.21 of IEGC-2010 which states that "To discourage frivolous revisions, an RLDC may, at its sole discretion, refuse to accept schedule/capability changes of less than two (2) percent of previous schedule/capability. The schedule of thermal generating stations indicating fuel shortage while intimating the Declared Capacity to the RLDC shall not be revised except in case of forced outage of generating unit. Provided that in case of gas based ISGS, for optimum utilization of gas, this shall be permitted, | We believe that this clause should be retained in the new Grid Code as it will deter the use of frivolous revisions to revise the schedule. Additionally, removing this clause may burden the system operator in SLDC/RLDC as unnecessary revision may be encouraged by the schedule grantee. |

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| | i.e. in case of tripping of a unit, this gas may be diverted to another unit using the same gas” | |
| 2. | As per clause 6.5.11 of IEGC-2010 which states that “Since variation of generation in run-of-river power stations shall lead to spillage, these shall be treated as must run stations. All renewable energy power plants, except for biomass power plants, , and non-fossil fuel based cogeneration plants whose tariff is determined by the CERC shall be treated as ‘MUST RUN’ power plants and shall not be subjected to ‘merit order despatch’ principles” | As variable renewable energy (VRE)plants get increasingly integrated in the Indian Grid, the status of ‘MUST RUN’ power plants to such VRE plants should be maintained so that they are not subject to revision as per merit order dispatch principles. |