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Sent: Tue, 01 Nov 2022 12:17:27 +0530 (IST)
Subject: Tata Power Comments on Draft IEGC 2022

Dear Sir/Mam

Please find enclosed comments from Tata Power on the draft IEGC 2022. The same has also been uploaded on the SAUDAMINI Portal.

Regards,
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Tata Power's Comments on draft CERC (Indian Electricity Grid Code) Regulations, 2022

S. No.	Chapter no.	Regulation as per Draft Regulations	Regulation as proposed by Tata Power	Rationale/Comments/ Suggestion
1.	Chapter 1	Definitions- (2) Alert State - means the state in which the system is within the operational parameters as defined in this code but a contingency has occurred	Clarification required in this clause	Operational parameters are not clearly defined in the proposed code. The allowable band of frequency is mentioned as 49.95 - 50.05 Hz in clause 30.2. So, whether grid code refers Frequency as the only operational parameter? Please clarify.
2.	Chapter 1	Definition <u>Additional Insertion</u> 'Auxiliary Energy Consumption'	'Auxiliary Energy Consumption' or 'AUX' in relation to a period in case of a generating station / ESS means the quantum of energy consumed by auxiliary equipment of the generating station / ESS, such as the equipment being used for the purpose of operating plant and machinery including switchyard of the generating station / ESS and the transformer losses within the generating station / ESS, expressed as a percentage of the sum of gross energy generated at the generator terminals of all the units of the generating station; Provided that Auxiliary Energy Consumption, in case of ESS, shall not include cycle loss occurred during charging and discharging of ESS.	'Auxiliary Energy Consumption' definition need to be inserted as regulation is referring the Auxiliary Consumption at many places.

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3.	Chapter 2	5(2) (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 31st July 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.	5(2) (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 31st July 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. The aforesaid demand as forecasted by Discoms can be modified within a period of one year prior to start of any particular year. For example, demand forecast for FY 25-26 may be revised and resubmitted by the DISCOM by 31st March 2024 or any other date allowed by the Commission.	<p>Considering so many variables involved in the Demand forecast, like open access consumers, distributed generation, demand response etc., it's not practically possible to provide demand forecasting for next 5 years on hourly basis with desired accuracy.</p> <p>Accordingly, following is suggested to be incorporated:</p> <ul style="list-style-type: none"> ▪ Need to have a provision allowing revision of demand estimates for better accuracy ▪ Demand forecasting to be done on a fortnightly instead of hourly basis ▪ Uniform demand forecasting methodology across Discoms. Hon'ble Commission may prescribe specific method/set of few methods
4.	Chapter 2	5 (2) (iii) Forum of Regulators may develop guidelines for demand estimation by the distribution licensees for achieving consistency and statistical accuracy by taking into consideration the factors such as economic parameters, historical data and sensitivity and probability analysis.	5 (2) (iii) Forum of Regulators, within 3 months from the notification of these regulations may develop guidelines for demand estimation by the distribution licensees for achieving consistency and statistical accuracy by taking into consideration the factors such as economic parameters, historical data and sensitivity and probability analysis.	<p>Need to provide timelines for development of guidelines, as these would act as broad principles for demand estimation by the distribution licensees.</p> <p>Specifying timelines will expedite the process.</p>

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5.	Chapter 2	<p><u>Additional Insertion</u></p>	<p>5 (3) (b1) Each Distribution Licensee shall have a responsibility to assess the Energy Storage requirement in different time horizons, namely long term, medium term, and short term. Additionally, while assessing the generation resource adequacy, distribution licensee must ensure that ESS has to be utilised to store the over generation capacity during certain time periods. Under such scenario, such stored energy shall be utilised later as per requirement.</p>	<p>Ministry of Power (MoP) vide its order dated 22nd July, 2022 has issued Renewable Purchase Obligation (RPO) and Energy Storage obligation (ESO) trajectory till 2029-30.</p> <p>Hence, while doing Generation resource planning / demand forecasting, distribution licensees must assess the requirement of ESS in long term, medium term as well as short term period.</p> <p>Further, distribution licensees shall have to assess various scenarios, wherein they anticipate any excess generation from RE resource. Instead of curtailing, the same can be stored and utilised during non-RE hours</p>
6.	Chapter 2	<p>5 (3)(e) NLDC shall carry out a simulation by 31st October every year, to assist the States in drawing their optimal generation resource adequacy plan. While carrying out the simulation, NLDC shall also take into consideration the information related to demand estimation, generation planning and related matters as available with CEA. The simulation carried out by NLDC for this purpose shall be considered merely an aid to the distribution licensees in the respective States in their exercise of generation resource adequacy planning and the distribution licensees shall be responsible for all commercial decisions on generation resource procurement.</p>	<p>5 (3)(e) NLDC shall carry out a simulation by 31st October every year, to assist the States in drawing their optimal generation resource adequacy plan. While carrying out the simulation, NLDC shall also take into consideration the information related to demand estimation, generation planning and related matters as available with CEA. The simulation carried out by NLDC for this purpose shall be considered merely an aid to the distribution licensees in the respective States in their exercise of generation resource adequacy planning and the distribution licensees shall be responsible for all commercial decisions on generation resource procurement</p> <p>Further, it shall be the responsibility of NLDC to validate the accuracy of the estimated demand vis-à-vis the actual demand. In</p>	<p>Role of NLDC should not be merely to provide aid in demand estimation.</p> <p>Since NLDC is equipped with required expertise and skills, it should also ensure that the demand estimation made by distribution licensees is accurate.</p> <p>This is critical, as it will have an impact on the overall demand- supply balance on a pan India level.</p>

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			doing so, NLDC shall keep into consideration the overall India and regional growth scenario.	
7.	Chapter 2	5(3)(f) After considering the demand forecasting and the generation resource procurement planning carried out based on the principles specified under this Regulation, each distribution licensee shall ensure demonstrable generation resource adequacy as specified by the respective SERC for the next five (5) years starting 1st April of the next year. Failure of a distribution licensee to meet the generation resource adequacy target approved by the SERC shall render the concerned distribution licensee liable for payment of resource adequacy noncompliance charge as may be specified by the respective SERC.	5(3)(f) After considering the demand forecasting and the generation resource procurement planning carried out based on the principles specified under this Regulation, each distribution licensee shall ensure demonstrable generation resource adequacy as specified by the respective SERC for the next five (5) years starting 1st April of the next year. Failure of a distribution licensee to meet the generation resource adequacy target approved by the SERC shall render the concerned distribution licensee liable for payment of resource adequacy noncompliance charge as may be specified by the respective SERC. However, resource adequacy demonstrated by the Discoms shall be subject to modification in case of delay of commissioning of generation projects, sudden/unprecedented load growth, exit of open access consumers from supply area, and any other factor not under their control without any penalty.	Resources adequacy depends on many variables like timely commissioning of generation project/associated transmission infrastructure and many other unplanned factors. Thus, while deciding the demonstrable generation resource adequacy target by the respective SERC for the next five years, following is suggested to be taken into consideration: <ul style="list-style-type: none"> ▪ Need to make it flexible and practically viable in consultation with distribution licensees to achieve the same ▪ Some Margin of (+/-) flexibility should be allowed to Discoms in terms of resources adequacy targets specified by SERC.

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8.	Chapter 2	<p>5 (3) (g) For the sake of uniformity in approach and in the interest of optimality in generation resource adequacy in the States, FOR may develop a model Regulation stipulating inter alia the methodology for generation resource adequacy assessment, generation resource procurement planning and compliance of resource adequacy target by the distribution licensees.</p>	<p>5 (3) (g) For the sake of uniformity in approach and in the interest of optimality in generation resource adequacy in the States, FOR may develop a model Regulation stipulating inter alia the methodology for generation resource adequacy assessment, generation resource procurement planning and compliance of resource adequacy target by the distribution licensees and levy of penalty for non-compliance of such targets including RPO.</p> <p>Provided, such penalty shall not be levied for factors beyond the control of the distribution licensee.</p>	<p>The referred clause stipulates the requirement to comply with generation resource adequacy assessment.</p> <p>It has been seen in the past that distribution licensee is not complying with the RPO requirement. Similarly, Distribution Licensee may forgo to comply with resource adequacy targets unless such non-compliance is linked with strict penal charges.</p> <p>Thus, suitable non-compliance charges need to be introduced.</p> <p>Further, while it is understood that resource adequacy is being introduced to ensure availability of sufficient generation to be able to meet the potential demand across different timelines, there could be instances wherein it is impossible to meet the resource adequacy targets due to reasons beyond the control of the licensee viz. non-availability of generation, transmission constraint, any force majeure event etc. which can disrupt supply.</p> <p>Hence, it is also suggested to provide necessary exemptions to applicability of the non-compliance charges proposed above.</p>

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9.	Chapter 2	Additional insertion	<p>5 (4) (v) Transmission deferral –</p> <p>Since ESS derive most their value inter alia from averting the installation of excessive amounts of transmission infrastructure. CTU/STU should optimize transmission system requirement with co-located ESS, particularly while designing evacuation system for wind-solar projects located in such resource rich area.</p> <p>Transmission system for RE dense area shall be developed for lower peak and such energy may be stored in ESS for dispatch in non-RE hours.</p>	<p>Renewable energy sources have relatively limited utilization (expressed as C.U.F) (Solar ~25% & Wind ~30%) as against conventional sources particularly thermal sources where design utilization is typically 85%. Hence, the utilisation of the associated transmission asset is comparatively low.</p> <p>Since transmission assets are typically created to cater the peak power requirement. This issue assumes significance in case of India which has embarked on an accelerated RE capacity addition i.e. 500 GW by 2030. A transmission system which is being used partially have both technical and cost implications.</p> <p>In view of above, ESS needs to capture under Transmission resource adequacy assessment so that transmission system requirement can be deferred, and system would be optimally utilised.</p>
10.	Chapter 2	Additional insertion	<p>Transmission planning, particularly that being planned for evacuation for RE power should be done in a manner that the length of the dedicated transmission line is minimised as much as possible.</p>	

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11.	Chapter 2	Additional insertion	Transmission adequacy planning code should cover the adequacy of intra-state transmission systems too.	<p>Both intra & inter-state transmission systems would be required for a RE rich capacity mix to cater to the demand of the future.</p> <p>In case of certain states it has been noted that Intra-state transmission capacity is inadequate but sincere efforts are not being taken to overcome the transmission constraints.</p> <p>Clearly, a holistic view must be taken for RE evacuation which includes both inter and intra- state transmission adequacy.</p>
12.	Chapter 2	<p>5(4) Transmission resource adequacy assessment</p> <p>(a) CTU shall undertake assessment and planning of the inter-State transmission system as per the provisions of the Act and shall inter alia take into account:</p> <p>(i) adequate power transfer capability across each flow-gate;</p> <p>(ii) import and export capability for each control area;</p> <p>(iii) import and export capability between regions; and</p> <p>(iv) cross-border import and export capability.</p> <p>(b) STU shall undertake assessment and planning of the intra-State transmission system as per the provisions of the Act and shall inter alia take into account:</p> <p>(i) import and export capability across ISTS and STU interface; and</p>	<p>5(4) Transmission resource adequacy assessment</p> <p>(a) CTU shall undertake assessment and planning and time-bound completion of the planned transmission capacity enhancement projects of the inter-State transmission system as per the provisions of the Act and shall inter alia take into account:</p> <p>(i) adequate power transfer capability across each flow-gate;</p> <p>(ii) import and export capability for each control area;</p> <p>(iii) import and export capability between regions; and</p> <p>(iv) cross-border import and export capability.</p> <p>(v) Scheduling of generators on merit order principles by the RLDC and SLDC.</p> <p>(b) STU shall undertake assessment and planning of the intra-State transmission</p>	<p>Following to be taken into consideration:</p> <ul style="list-style-type: none"> ▪ In addition to assessment and planning of inter-State transmission system by CTU and intra-State transmission system by STU, there should be time-bound plan to complete the planned transmission capacity enhancement projects. ▪ Such transmission planning should allow scheduling of generators on merit order principles by the RLDC and SLDC.

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		(ii) adequate power transfer capability across each flow-gate.	<p>system as per the provisions of the Act and shall inter alia take into account:</p> <p>(i) import and export capability across ISTS and STU interface; and</p> <p>(ii) adequate power transfer capability across each flow-gate.</p> <p><i>(iii) Scheduling of generators on merit order principles by the RLDC and SLDC.</i></p>	
13.	Chapter 4	<p>15 (6)</p> <p>Users shall submit the following protection performance indices of previous month to their respective RPC on monthly basis, which shall be reviewed by the RPC:</p> <p>(a) The Dependability Index defined as $D = N_c / (N_c + N_f)$</p> <p>where,</p> <p>N_c is the number of correct operations at internal power system faults and</p> <p>N_f is the number of failures to operate at internal power system faults.</p> <p>(b) The Security Index defined as</p> <p>Where, $S = N_c / (N_c + N_u)$</p> <p>N_c is the number of correct operations at internal power system faults</p> <p>N_u is the number of unwanted operations.</p> <p>(c) The Reliability Index defined as</p> <p>Where, $R = N_c / (N_c + N_i)$</p> <p>N_c is the number of correct operations at internal power system faults</p> <p>N_i is the number of incorrect operations and is the sum of N_f and N_u</p>	Need clarification in the clause.	<p>Need clarity on Indices in terms of what minimum level this has to be calculated i.e. voltage & grid level.</p> <p>Please clarify.</p>

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14.	Chapter 5	<p>19 (2) The period for which such interchange shall be allowed shall be as follows :-</p> <p>(a) Drawal of start-up power shall not exceed 15 months prior to the expected date of first synchronization and 6 months after the date of first synchronization; and</p> <p>(b) Injection of infirm power shall not exceed six months from the date of first synchronization</p>	<p>The following amendment is suggested for RE projects:</p> <p>(a) Drawal of start-up power shall not exceed 15 months prior to the expected date of first synchronization and 12 months after the date of first synchronization; and</p> <p>(b) Injection of infirm power shall not exceed six twelve months from the date of first synchronization</p>	<p>In case of RE projects, part commissioning of capacities is allowed subject to minimum capacity being commissioned of 50 MW. Consequently, the commissioning of the entire project may get stretched. Sometimes, FM conditions intervene to constrain full capacity from being commissioned within the stipulated time. In such cases the proposed window for drawal of start-up/ injection of infirm power may seem restrictive.</p> <p>Further, 6 months after first synchronization is practically limiting the period of commissioning of entire capacity to 6 months starting from first synchronization. Hence, the request to extend the timelines.</p>
15.		<p>24 (5) (b) (iii) Documents and <u>Tests Required</u> for the Generating Stations based on wind and solar resources</p> <p>Grid-forming capability, wherever provided, in inverter-based units that may be used as black start resource</p>	<p>Please clarify if these are applicable only on the new RE projects (post the notification of these regulations) Or to all the RE projects including existing ones.</p>	
16.	Chapter 5	<p>26 (b) The certificates as required under clause (a) of this Regulation shall be signed by the authorized signatory not below the rank of CMD or CEO or MD of the generating company and shall be submitted to the concerned RLDC and to the Member Secretary of the concerned RPC before declaration of COD</p>	<p>Need suitable changes w.r.t authorised signatory</p>	<p>In case of RE, projects are of small scale and size. These are typically headed by Engineers/mid management.</p> <p>Hence, such specific requirement of authorized signatory not below the rank of CMD or CEO or MD, may please be deleted.</p>

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17.	Chapter 6	29(5) Except under an emergency, or when it becomes necessary to prevent an imminent damage to a costly equipment, no user shall cause a sudden variation in its load by more than 100 (one hundred) MW without prior permission of the respective RLDC.	29(5) Except under an emergency, or when it becomes necessary to prevent an imminent damage to a costly equipment, no user shall cause a sudden variation in its load by more than 100 (one hundred) MW without prior permission of the respective RLDC. Further, at times, it may not be practical to seek prior consent from respective RLDC for aforementioned sudden load variation. In such cases Discoms/State Load Dispatch centre may take a call on the same based on the prevailing conditions with due intimation to respective RLDC.	<p>It is suggested that conditions qualifying under emergency need to be specified under the IEGC.</p> <p>During certain emergency situations seeking prior approval from RLDC may not be possible at all the times. IEGC shall explicitly define in advance the following:</p> <ul style="list-style-type: none"> ▪ Emergency conditions where permission from RLDC is required ▪ Other conditions where Discoms/State Load Dispatch Centre may take a call. <p>Further, revision of schedule is already being captured in DSM mechanism and hence no separate treatment of same is required.</p>
18.	Chapter 6	29(17) Transmission licensees and distribution licensees shall implement defense mechanisms as finalized by the respective RPCs to prevent voltage collapse and cascade tripping.	29(17) Transmission licensees and distribution licensees shall implement defense mechanisms as finalized by the respective RPCs to prevent voltage collapse and cascade tripping. List of Equipment and items qualified under category of system Security shall be published under the IEGC/Website of RPC's and cost of such items to be a pass through in the ARR of the licensees.	<ul style="list-style-type: none"> ▪ It is requested to clarify as to how any additional capitalization for implementation of such plan made by RPC would be treated. ▪ It is suggested that RPC must categorically mention in its plan that any such investment would be a pass through in distribution tariff. Here, the intent is to ensure the timely recovery of expenses done by DISCOMs.
19.	Chapter 6	30 (10) (e) NLDC may also identify other resources such as ESS and demand resource to provide PRAS for which PRAS Providers shall be compensated in accordance with the Ancillary Services Regulations.	Clarification required in the said clause	<p>CERC Ancillary Service regulation 2022 does not have provision related to compensation of Primary Reserve Ancillary Service.</p> <p>It is requested to clarify under such scenario, how Primary Reserve Ancillary Service provider will be compensated?</p>

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20.	Chapter 6	30 (10) (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.	30 (10) (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.	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. 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. Modification may please be made accordingly.
21.	Chapter 6	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 a mandatory requirement which RE generator /ESS are bound to comply? Since, under CERC Ancillary Service Regulation 2022, SRAS/TRAS is to be provided on voluntary basis except under 'emergency' condition.
22.	Chapter 6	40 (3): Field Testing For Model Validation Table 9: Tests Required For Power System Element	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.
23.	Chapter 6	34 (9) Any entity extending black start support by way of injection of power as identified in clause (6) of this Regulation shall be paid for actual injection @ 110 % of normal rate of charges for deviation in	Suitable changes may be made as per the comment/rationale	In case if, the black start unit like a gas plant, uses high value fuel like RLNG, the compensation based on DSM may not be sufficient. It is suggested that provision for such cases may also be made.

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		accordance with DSM Regulations for the last block in which the grid was available.		
24.	Chapter 6	39 Reactive Power Management: (8) Periodic or seasonal tap changing of inter-connecting transformers and generator transformers shall be carried out to optimize the voltages and if required, other options such as tap staggering may be carried out in the network	Suitable changes may be made as per the comment/rationale	<ul style="list-style-type: none"> ▪ OLTC operation in any transformer is considered as vulnerable and may create unwanted tripping of generator transformers or failure of transformers. ▪ Tata Power has never operated OLTC in past and is able to manage variation in voltage throughout the year by controlling generator excitation. <p>In view of unreliability of OLTC, we recommend not to do periodical or seasonal tap changing.</p>
25.	Chapter 6	45. <u>General Provision:</u> 9. Ramping Rate to be Declared for Scheduling: (i) Coal or lignite fired plants shall declare a ramp up or ramp down rate of not less than 1% of ex-bus capacity corresponding to MCR on bar per minute.	Suitable changes may be made as per the comment/rationale	<ul style="list-style-type: none"> ▪ Tata Power's CGPL plant has witnessed frequent schedule revision (average 24 to 25 in a day). With such no. of revisions in schedule will cause for frequent change in thermal inertia in boiler which will result in stress development in pressure parts of boiler and metal temperature excursions, subsequently results in force outage of plant. ▪ Plants under section 62 are proposed to be incentivised as ROI for providing 1% ramp rate as per regulation, whereas plant under section 63 have been excluded from such financial benefit. <p>Thus, it is suggested that plants under section 63 are also included in this regulation for incentives.</p>

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26.	Chapter 7	43(3) The SLDCs shall be responsible for scheduling and despatch of electricity, monitoring of real time grid operations and management of the reserves including energy storage system and demand response within its State control area, supervision and control over the intra-State transmission system, processing of interface energy meter data and coordinating the accounting and settlement of State pool account, as may be specified by the appropriate State Commission.	43(3) The SLDCs shall be responsible for Optimal scheduling and despatch of electricity, monitoring of real time grid operations and management of the reserves including energy storage system and demand response within its State control area, supervision, capacity enhancement and control over the intra-State transmission system, processing of interface energy meter data and coordinating the accounting and settlement of State pool account, as may be specified by the appropriate State Commission.	<ul style="list-style-type: none"> ▪ In case of certain states it has been noted that Intra-state transmission capacity is inadequate but sincere efforts are not being taken to overcome the transmission constraints. ▪ Further, it has also been observed that state Genco's are not being run by SLDC's on commercial principles, rather the same is being run based on some state specific local factors, leading to MoD violation and higher cost burden on end consumers. <p>It is suggested that suitable provisions are put in place to ensure that no such MoD violation takes place under any state owing to transmission constraints/other local factors that put unnecessary financial burden on the end consumers.</p>

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27.	Chapter 7	<p>44(3) The State Load Despatch Centre in discharge of its functions under the Act and for stable, smooth and secure operation of the integrated grid, shall be responsible for the following in its control area: (c) Scheduling and despatch for the entities in the State control area in accordance with contracts; (f) Declaring Total Transfer Capacity and Available Transfer Capacity in respect of import and export of electricity of its control area with inter-State transmission system in coordination with the Central Transmission Utility and revising the same from time to time based on Grid Conditions.</p>	<p>44(3) The State Load Despatch Centre in discharge of its functions under the Act and for stable, smooth and secure operation of the integrated grid, shall be responsible for the following in its control area: (c) Scheduling and despatch for the entities in the State control area in accordance with contracts following the Merit Order strictly;..... (f) Declaring Total Transfer Capacity and Available Transfer Capacity in respect of import and export of electricity alongwith Transmission Constraints and timebound plan for mitigation of same of its control area with inter-State transmission system in coordination with the Central Transmission Utility and revising the same from time to time based on Grid Conditions. Further, pending intra-state transmission schemes should be approved on fast track basis, monitored regularly and be completed within the defined timelines.</p>	<ul style="list-style-type: none"> ▪ Need to ensure that scheduling of State Gencos is done optimally strictly as per the MoD principles. ▪ Need to ensure that transmission constraints (if any, in the intra state network) are identified and removed on time. <p>Thus, it is suggested that suitable provisions are put in place to ensure that no such MoD violation takes place owing to transmission constraints/other local factors that put unnecessary financial burden on the end consumers.</p>

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28.	Chapter 7	<p>45(8) Declaration of Declared Capacity by Regional entity generating stations</p> <p>(b) The regional entity generating stations may be required to demonstrate the declared capacity of their generating stations as and when directed by the concerned RLDC. For this purpose, RLDC, in coordination with SLDC and the beneficiaries, shall schedule the regional entity generating station upto its declared capacity as declared on day ahead basis at time of first declaration. RLDC shall ask each generating station, at least once in a year, to demonstrate the declared capacity.</p> <p>(c) The schedule issued by the RLDC shall be binding on the beneficiaries for such testing of declared capacity of the regional entity generating station. In case the generating station fails to demonstrate the declared capacity, it shall be treated as mis-declaration for which charges shall be levied on the generating station by RPC as follows: The charges for the first mis-declaration for a block or multiple blocks in a day shall be the charges corresponding to two days fixed charges at normative availability. For the second mis-declaration, the charges shall be corresponding to four days fixed charges at normative availability and for subsequent misdeclarations, the charges shall increase in a geometric progression over a period of a month.</p>	<p>45(8) Declaration of Declared Capacity by Regional entity generating stations</p> <p>(b) The regional entity generating stations may be required to demonstrate the declared capacity of their generating stations as and when directed by the concerned RLDC. For this purpose, RLDC, in coordination with SLDC and the beneficiaries, shall schedule the regional entity generating station upto its declared capacity as declared on day ahead basis at time of first declaration. RLDC shall ask each generating station, at least once in a year, to demonstrate the declared capacity.</p> <p>(c) The schedule issued by the RLDC shall be binding on the beneficiaries for such testing of declared capacity of the regional entity generating station. In case the generating station fails to demonstrate the declared capacity, it shall be treated as mis-declaration for which charges shall be levied on the generating station by RPC as follows: The charges for the first mis-declaration for a block or multiple blocks in a day shall be the charges corresponding to two days fixed charges at normative availability. For the second mis-declaration, the charges shall be corresponding to four days fixed charges at normative availability and for subsequent misdeclarations, the charges shall increase in a geometric progression over a period of a month.</p>	<p>The same is a welcome step as it will prevent gaming by the generators. In case generator has been declaring full DC without running upto its full capacity and at the time of testing plant is not able to generate upto its declared capacity, the DC of the plant should be revised to the actual (MW) capacity it was able to demonstrate, for a timeframe as decided/deemed fit by the Appropriate Authority.</p> <p>Similar provisions should be incorporated for Generating stations under the purview of SLDC.</p>

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29.	Chapter 7	<p>Additional Insertion</p> <p>45(10) Optimum Utilization of Hydro Energy</p>	<p>45 (10) Optimum Utilization of Hydro Energy and Solar Energy</p> <p>(c) 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</p>	<p>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.</p> <p>We request that the same should be allowed to inject during high insolation period or shortage scenario like in case of hydro power plant.</p>

S. No.	Chapter no.	Regulation as per Draft Regulations	Regulation as proposed by Tata Power	Rationale/Comments/ Suggestion
30.	Chapter 7	45 (11) (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.	45 (11) (b) NLDC shall notify a procedure for aggregation of pooling stations and at regional level 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. Provided further that aggregated deviation at regional level shall be charged from such Wind and Solar Generator on proportionate to their individual deviation.	We agree with the proposed Regulation. State level aggregation of schedule by a QCA is implemented by Karnataka and Andhra Pradesh. . States follow one of the three levels of aggregation of scheduling i.e., plant-level, pooling station-level, and State-level. This specific element of the regulations has material implications for long term viability of RE projects in India. Hence, it is critical that relevance of 'Aggregating schedule of pooling substations by QCA at regional level is very much required. It is to be noted that the forecasting of RE projects is technically constrained because of the two reasons – (i) limited accuracy of weather forecasting models, and (ii) limited spatial resolution available In such circumstances, RE projects face uphill task to comply with DSM regulations and absence of aggregation of schedule of various pooling substations at regional level by QCA, puts RE project unreasonably exposed to penalty.

S. No.	Chapter no.	Regulation as per Draft Regulations	Regulation as proposed by Tata Power	Rationale/Comments/ Suggestion
31.	Chapter 7	<p>45 (12) Minimum Turndown level</p> <p>The minimum turndown level for operation in respect of a unit of a regional entity thermal generating station shall be 55% of MCR of the said unit: Provided that the Commission may fix through an order a different minimum turndown level of operation in respect of specific unit(s) of a regional entity thermal generating station: Provided further that such generating station on its own option may declare a minimum turndown level below 55% of MCR:. Provided also that the regional entity thermal generating stations shall be compensated for generation below the normative level either as per the mechanism in the Tariff Regulations or in terms of the contract entered into by such generating station with the beneficiaries or buyers, as the case may be</p>		<p>The compensation mechanism as per the current tariff regulations 2019-24 refers to IEGC clause 6.3(B). However, it may be noted that the IEGC provides compensation for APC and Heat Rate up to 55% MCR only.</p> <p>As generators are now permitted to operate below the minimum turndown level i.e., 55% of MCR, the compensation mechanism may be modified accordingly.</p>

S. No.	Chapter no.	Regulation as per Draft Regulations	Regulation as proposed by Tata Power	Rationale/Comments/ Suggestion
32.	Chapter 7 (TPDDL)	46(4)(g) The URS power over and above the minimum turn down level, available in the generating station or unit thereof, brought on-bar under clause 4(d) of this Regulation shall be deemed to be available for use as SRAS or TRAS or both in terms of the Ancillary Services Regulations.	46(4)(g) The URS power over and above the minimum turn down level, available in the generating station or unit thereof, brought on-bar under clause 4(d) of this Regulation shall be deemed to be available for use as SRAS or TRAS or both in terms of the Ancillary Services Regulations. However, details in respect of power not scheduled under SRAS or TRAS as applicable shall be made available on the website of Regional Load Despatch centre, which can be utilized by the respective beneficiary as per their entitlement in six time blocks.	The Distribution utility shall have its right to recall URS power whenever needed in six time blocks based on its utilization. The same should not be considered solely for the purpose of utilization under SRAS or TRAS.
33.	Chapter 7	46(4)(g) The URS power over and above the minimum turn down level, available in the generating station or unit thereof, brought on-bar under clause 4(d) of this Regulation shall be deemed to be available for use as SRAS or TRAS or both in terms of the Ancillary Services Regulations.	Need clarification in this clause.	As the generating station selected under SCUC, is a deemed provider of SRAS and TRAS. Will a generator chosen under SCUC be permitted to sell its power in excess of minimum turndown level in the exchange or the excess power shall remain committed for secondary/Tertiary ancillary services? If they are not allowed to sell the excess power and are required to remain available for TRAS, will they be paid the commitment charges as per the ancillary services regulations? Please clarify?
34.	Chapter 7	46(4)(h) UNIT SHUT DOWN (USD) (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	46(4)(h) UNIT SHUT DOWN (USD) (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	This is a welcome step as the generators will be liable to supply the power requisitioned by the DISCOM corresponding to its requisition before the generators going under USD. The same will ensure scheduling of optimal cost

S. No.	Chapter no.	Regulation as per Draft Regulations	Regulation as proposed by Tata Power	Rationale/Comments/ Suggestion
		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.	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. Further, if the generator goes under shutdown and the replacement power scheduled by it which is purchased from power market and scheduled to the beneficiaries is cheaper than the variable cost of the Generator, the gains realized from the same after accounting all the associated expenses shall be shared with the respective beneficiary in 50:50 or any other ratio decided by the Commission.	power as well as lead to preservation of fuel by such generators. However, it is suggested to include provision that ensures that in case of any gains made by the generator from such alternate supply, the same is shared with the beneficiary.
35.	Chapter 7 (MPL)	46(4)(h) UNIT SHUT DOWN (USD) (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.	Suitable changes may be made as per the comment/rationale	This clause shall expose the generator to a higher risk of buying the power from market and scheduling it to beneficiaries, without any fault of the generator. IEGC 4th amendment provides for startup fuel cost if the number of start/stops per year is greater than 7. However, the current draft grid code does not provide for any such compensation due to USD. The generator running below MTL should be compensated for degradation of performance parameters.

S. No.	Chapter no.	Regulation as per Draft Regulations	Regulation as proposed by Tata Power	Rationale/Comments/ Suggestion
36.	Chapter 7	<p>47 (5) Grid disturbance of category GD-5: GD-5 is defined under Regulation 11(2) of CEA Grid Standards as “When forty per cent or more of the antecedent generation or load in a regional grid is lost”</p> <p>Scheduled generation of all the affected regional entity generating stations supplying power under bilateral transactions shall be deemed to have been revised to be equal to their actual generation for all the time blocks affected by the grid disturbance. Such regional entity generating station shall pay back the energy charges received by it for the scheduled generation revised as actual generation to the pool account.</p>	Need clarification in this clause	<p>If the generating station fails to deliver its scheduled generation due to grid disturbance of category GD 1/2/3/4, it may be liable to DSM payable to the grid without any fault of the generator.</p> <p>Hence the same to be clarified.</p>
37.	Chapter 7 (Dev)	<p>47 (1)(a)(ii)</p> <p>The generating station based on hydro energy shall submit the following information for 0000 hours to 2400 hours of the ‘D’ day, by 6 AM on ‘D-1’ day</p> <p>(a) Time block-wise ex-bus declared capacity;</p> <p>(b) MWh capability for the day;</p> <p>(c) Ex-bus peaking capability in MW and MWh;</p> <p>(d) Time block-wise Ramp up rate (MW/min) for on-bar capacity;</p> <p>(e) Time block-wise Ramp down rate (MW/min) for on-bar capacity;</p>	Need clarification in this clause	Clarification required on forbidden zones for HYDRO Units

S. No.	Chapter no.	Regulation as per Draft Regulations	Regulation as proposed by Tata Power	Rationale/Comments/ Suggestion
		<p>(f) Unit-wise forbidden zones in MW and percentage (%) of ex-bus installed capacity;</p> <p>(g) Minimum MW and duration corresponding to requirement of water release for irrigation, drinking water and other considerations.</p>		
38.	Chapter 7	<p>47 (1) (e) Requisition of schedule by buyers who are GNA grantees: 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)</p> <p>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 (1) (e) Requisition of schedule by buyers who are GNA grantees: 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)</p> <p>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>Wind , solar, wind-solar hybrid with or without storage , standalone storage drawing power from renewable energy sources and hydro power plant (in case of excess water leading to spillage) 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>	The proposal is self-explanatory.

S. No.	Chapter no.	Regulation as per Draft Regulations	Regulation as proposed by Tata Power	Rationale/Comments/ Suggestion
			<p>In the event of transmission constraint or system security constraint renewable energy generation may be curtailed after harnessing flexible resources including energy storage systems.</p> <p>In the event of extreme circumstances, when MUST RUN plant has to be curtailed, the details shall be published on the RLDC/SLDC website the following day, as the case may be, giving the date, name of RE generation plant, installed capacity, curtailment quantum in MWh, duration of curtailment and reasons thereof.</p>	
39.	Chapter 7	<p>47 (3) (a) (ii)</p> <p>Transactions under T- GNA shall be curtailed in the following order:</p> <p>Within transactions under GNA, curtailment shall be done first from generation sources other than wind, solar, wind-solar hybrid and run of the river hydro plants with upto three hours pondage (in case of excess water leading to spillage), on pro rata basis based on their GNA quantum.</p>	<p>47 (3) (a) (ii)</p> <p>Within transactions under GNA, curtailment shall be done first from generation sources other than wind, solar, wind-solar hybrid and run of the river hydro plants with upto three hours pondage (in case of excess water leading to spillage), on pro rata basis based on their GNA quantum.</p> <p>Provided further that curtailed generation based on Wind, Solar, and Wind-Solar hybrid with and without Storage, shall be considered as deemed generation and shall be subject to compensation to the generator by its procurer at PPA tariff.</p>	<p>It has been seen in the past, that generators connected to state grid have been facing frequent backing down instructions citing grid security and many such instruction are issued verbally without any written communications,</p> <p>APTEL has also recognised the same in its order vide APPEAL NO. 197 of 2019 & IA NO. 1706 of 2019 dated 2nd August 2022, and directed that such state agencies shall pay the compensation for instances where curtailment instruction were issued for the reason other than grid security, at 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, since generators are losing revenue owing to such events.</p>

S. No.	Chapter no.	Regulation as per Draft Regulations	Regulation as proposed by Tata Power	Rationale/Comments/ Suggestion
40.	Chapter 7	<p>47 (4) (C)</p> <p>Revision of schedules on request of regional entities:</p> <p>(c) Based on the request for revision in schedule made as per sub-clauses (a) and (b) of Clause 4 of this Regulation, any revision in schedule made in odd time blocks shall become effective from 7th time block and any revision in schedule made in even time blocks shall become effective from 8th time block, counting the time block in which the request for revision has been received by the RLDCs to be the first one.</p>	<p>47 (4) (C)</p> <p>(c) Based on the request for revision in schedule made as per sub-clauses (a) and (b) of Clause 4 of this Regulation, any revision in schedule made in odd time blocks shall become effective from 7th 3rd time block and any revision in schedule made in even time blocks shall become effective from 8th 4th time block, counting the time block in which the request for revision has been received by the RLDCs to be the first one.</p>	<p>In current regulatory framework, wind and solar generators are being allowed to revise its schedule and such revision shall become effective from the 4th time block, 1st block being the block in which notice has been given. Moreover, one revision for each time slot of one and half hours starting from 00:00 hours of a particular day subject to maximum of 16 revisions during the day. Hon'ble Commission in Statement of Reasons (SOR) order issued while notifying the DSM Regulations, 2014, observed as under:</p> <p>It is submitted that the Hon'ble Commission was also in agreement that the increasing frequency of revision would enhance forecasting of accuracy. Considering the above observation, we request the Hon'ble Commission that the revision in schedule be made effective from 3rd and 4th time block.</p>
41.	Chapter 7	<p>47 (5)(f)</p> <p>Grid Disturbance Category GD-5:</p> <p>(f) Energy and deviation settlement for the period of any grid disturbance causing disruption in injection or drawal of power shall be done by the concerned RPC(s) in consultation with the concerned RLDC(s). Provided that generation and drawal schedules revised by the Regional Load Despatch Centre shall become effective from 7th block or 8thblock depending on block in which schedule has been revised as first block.</p>	<p>Suitable changes may be made as per the comment/rationale</p>	<p>This is a very large time period for effecting the change.</p> <p>This should be reduced to at least 4th time block.</p>