

PUNJAB ELECTRICITY REGULATORY COMMISSION

(Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) Regulations, 2019, Dated: 7.01.2019

Sl. No.	Description	Summary
1.	Applicability	These Regulations shall be applicable to all wind and solar generators with individual capacity of 5 MW and above connected to the State Transmission System or distribution system or wind and solar generators of any capacity connected through pooling stations to the State Transmission System or distribution system with combined capacity of 5 MW and above, supplying power to the distribution company (ies) or to the third party through open access or for captive consumption through open access within or outside the State.
2.	Qualified Coordinating Agency (QCA)	<ol style="list-style-type: none"> 1. Qualified Coordinating Agency (QCA) is an agency appointed by the wind/solar generators, connected to a pooling station, for coordinating on their behalf with SLDC. 2. Each pooling station shall have one QCA who may be one of the generators or any other mutually agreed agency to perform the functions and discharge the obligations as specified in these regulations.
2.	Forecasting and Scheduling Code	<ol style="list-style-type: none"> 1. This Code specifies the methodology for Day-Ahead, Week ahead scheduling of wind and solar energy generators, which are connected to the State Grid and re-scheduling them on one and half hourly basis and methodology of handling deviations of such wind and solar energy generators. 2. Appropriate Interface meters shall be provided in accordance with CEA Metering Regulations for energy accounting. 3. Forecasting shall be done by every wind and solar generator connected to the Grid, either by itself or by a QCA on its behalf. The forecast by a wind or solar generator or QCA, as the case may be, shall be generator centric. 4. The QCA shall coordinate the aggregation of schedules of all its generators connected to a pooling station and communicate the same to the SLDC. 5. The existing wind and solar generators or QCA on their behalf shall establish the forecasting tools and furnish day ahead, week-ahead forecasting and scheduling to SLDC within six months from the date of coming into force of these regulations. 6. Every wind and solar generator or a QCA shall submit a day ahead and week ahead schedule for each generating station or each pooling station, as the case may be. Day ahead schedule shall contain wind or solar energy generation schedule at intervals of fifteen (15) minutes time-block for next day, starting from 00.00 hours of the day and prepared for all ninety six (96) time blocks of the day. Week-ahead schedule shall contain the same information for next seven days. 7. The schedule of wind and solar generators connected to the State Grid, excluding collective transactions, may be revised by giving advance notice to SLDC. Such revisions shall be effective from fourth (4th) time block, the first being the time-block in which notice was given.
3.	Treatment for Gaming	Any intentional mis-declaration of Available Capacity or schedule to the SLDC for its own undue commercial gain through deviation charges or that of a generator shall be considered as gaming and shall be liable to action under appropriate provisions

		of the Act or the Regulations.															
3.	Deviation Settlement of Intra-State Transactions	<p>1. The wind or solar generators, which are state entities, connected to the State Grid and selling power within the State shall be paid by the buyers as per actual generation whereas the Deviation Settlement shall be undertaken as under;</p> <p>2. In the event of actual generation of a Solar or Wind generating station or a pooling station, as the case may be, being less or more than the scheduled generation, the deviation charges for shortfall or excess generation shall be payable by the wind and solar generator or the QCA on its behalf, as the case may be, to the State Pool Account, as given in Table below:</p> <ul style="list-style-type: none"> Deviation Charges in case of under-injection or over injection, by Wind/Solar Generating Stations for sale of power within State 															
		<table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Absolute Error in the 15-minute time block</th> <th>Deviation Charges payable to State DSM Pool</th> </tr> </thead> <tbody> <tr> <td>1</td> <td><= 15%</td> <td>None</td> </tr> <tr> <td>2</td> <td>>15% but <=25%</td> <td>(At the Rs 0.50 per unit for shortfall or excess energy for Absolute Error beyond 15% and upto 25%)</td> </tr> <tr> <td>3</td> <td>>25% but <=35%</td> <td>(At the Rs 0.50 per unit for shortfall or excess energy for Absolute Error beyond 15% and upto 25%) + (At the Rs 1.00 per unit for balance energy beyond 25% and up to 35%)</td> </tr> <tr> <td>4</td> <td>> 35%</td> <td>(At the Rs 0.50 per unit for shortfall or excess energy for Absolute Error beyond 15% and upto 25%) + (At the Rs 1.00 per unit for shortfall or excess energy beyond 25% and up to 35%) + (At the Rs 1.50 per unit for balance energy beyond 35%)</td> </tr> </tbody> </table>	Sr. No.	Absolute Error in the 15-minute time block	Deviation Charges payable to State DSM Pool	1	<= 15%	None	2	>15% but <=25%	(At the Rs 0.50 per unit for shortfall or excess energy for Absolute Error beyond 15% and upto 25%)	3	>25% but <=35%	(At the Rs 0.50 per unit for shortfall or excess energy for Absolute Error beyond 15% and upto 25%) + (At the Rs 1.00 per unit for balance energy beyond 25% and up to 35%)	4	> 35%	(At the Rs 0.50 per unit for shortfall or excess energy for Absolute Error beyond 15% and upto 25%) + (At the Rs 1.00 per unit for shortfall or excess energy beyond 25% and up to 35%) + (At the Rs 1.50 per unit for balance energy beyond 35%)
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		The QCA shall undertake de-pooling of the energy deviation as well as deviation charges to each generator in proportion to actual generated units for each time block for each generator.															
4.	Deviation Settlement for Inter-State Transactions	The wind or solar generators, which are state entities undertaking inter-state transactions shall be paid as per schedule generation in accordance with CERC (Deviation Settlement Mechanism & Related Matters) Regulations, 2014, as amended from time to time, as under.															
5.	Deviation Settlement for Inter-State and Intra-State Transactions	<p>1. The SLDC shall provide separate Energy and Deviation accounts for inter-state and intra-state transactions to QCA or individual wind or solar generator, as the case may be.</p> <p>2. The wind or solar generators, as state entities, undertaking intrastate transactions and inter-state transactions shall be allowed provided that such generators are connected to separate feeders at LV side of the Pooling Substation and metering, scheduling, energy accounting and deviation settlement account for such wind or solar generators are maintained separately.</p>															

5.	Metering	<ol style="list-style-type: none"> 1. Interface Energy Meters (IEMs) shall be installed by STU/SPD as per CEA Metering Regulations. Every Solar and Wind generating plant or a pooling station shall have a Special Energy Meter (SEM) at the interface points capable of recording and storing all the load survey and billing parameters for every 15-minute time blocks or such shorter duration as may be specified by the Commission, in accordance with the CEA Regulations governing metering. 2. Weekly meter readings shall be forwarded to the SLDC in addition to data provided through Supervisory Control And Data Acquisition (SCADA) for energy accounting.
6.	Telemetry	Frequency of real time data updation to be shared with SLDC shall be 10 second or less as per prevailing practice being followed by RLDCs. Further, turbine/inverter outage plan shall be forwarded to SLDC.
7.	Communication	All Solar and Wind generators or QCAs, as the case may be, whose scheduling is done by SLDC shall follow Central Electricity Regulatory Commission (Communication Systems for Inter-state Transmission of Electricity) Regulations, 2017 for Communication infrastructure to be used for data communication, tele-protection of power system at the State level till the Commission notifies separate regulations on Communication systems for State entities.
8.	Deviation Accounting and Settlement of Deviation Charges	<ol style="list-style-type: none"> 1. The Deviation Charges (D) payable/receivable for the State as a whole at State periphery by distribution licensee/OA consumers/conventional generators/RE generators (pooling station) shall be computed first by SLDC in accordance with CERC (Deviation Settlement Mechanism and related matters) Regulations, 2014, as amended from time to time. 2. The QCA shall pay the Deviation Charges to the SLDC, and collect it from the concerned Generators in proportion to their actual generation. 3. If the payments against deviation charges are delayed beyond 12 days from the date of issue of deviation charges statement by SLDC, then the defaulting generator shall pay simple interest @ 0.04% for each day of delay. 4. All payments to the State entities on account of charges for deviation shall be made within 2 working days of receipt of the payments in State Pool account.