

KARNATAKA ELECTRICITY REGULATORY COMMISSION

(Forecasting, Scheduling, Deviation settlement and related matters for Wind and Solar Generation sources) Regulations, 2015, Dated: 31-05-2016

Sl. No.	Description	Summary
1.	Control Period	N.A.
2.	Applicability	<ol style="list-style-type: none"> 1. All Wind Generators having a combined installed capacity of 10 MW and above at the pooling station whether they are supplying power to the ESCOMs or to third party consumers through open access or for captive consumption through open access within or outside the State. 2. All Solar Generators with an installed capacity of 5 MW and above at the pooling station whether they are supplying power to the ESCOMs or to third party consumers through open access or for captive consumption through open access within or outside the State.
3.	Forecasting and Scheduling	<ol style="list-style-type: none"> 1. Alternately services of REMCs (Renewable Energy Management Centers) as may be set up in the state may be availed by both existing and new wind and solar generators for installing forecasting tools and forecasting their generation schedules. 2. The forecast by the wind and solar generators shall be the wind-farm/solar facility centric and shall form the basis of the scheduling. 3. The wind and solar power generators connected to the State grid shall, either by themselves or through a QCA or through an Aggregator, furnish week-ahead, day-ahead and intraday generation schedules for each pooling-station or each generating-station as the case may be, by using respective forecasting tools at their wind-farm / solar facility centric to the SLDC. 4. The day-ahead forecast shall include wind and solar energy generation forecast at regular intervals of 15minutes' time block for the next day from 00:00 hours of the day for all the 96 numbers of 15 minutes' time blocks. Week ahead forecast shall contain the same information for the next seven days. 5. The wind and Solar generators either by themselves or through the Aggregators / QCAs may opt for aggregation of Forecasting and Scheduling of different pooling stations to enable larger geographical integration and furnish scheduling of integrated pools at 15 minutes' time block to SLDC, and in such case any pooling and de-pooling of the DSM charges shall be done only at their level.
4.	Frequency of Revisions	The wind and solar generators may revise the day ahead schedules for a maximum of 16 revisions during the intra-day, one each in one and half hour slot starting from 00.00 hrs and such revisions shall be effective from 4 th time block, the first being the time-block in which notice was given.(For the revisions to be effective from 4 th time block, the notice shall be given in the first time block).

5.	Priority for Renewable Energy Sources Generation Schedule	<ol style="list-style-type: none"> The wind, solar power and other renewable energy sources shall be given first priority in generation scheduling and dispatching under normal power system operating conditions. Any commercial impact on account of deviation from the schedule based on the forecast, shall be borne by the wind and solar generators, either directly or through the QCA or through the aggregator when transacted through such entities. 															
6.	Metering	<ol style="list-style-type: none"> SEMs (Special Energy Meters 0.2s class of accuracy) shall be provided at the pooling station of wind and solar power plants / at the inter face points of STU/ESCOMs, with a provision for recording and storing all the load survey and billing parameters for every 15 minutes* interval block period. Monthly meter readings shall be forwarded to the SLDC in addition to data acquisition through the SCADA. for energy accounting The SEMs (Special Energy Meters 0.2s class of accuracy) shall be complying with the provisions of Central Electricity Authority (Installation and Operation of Meters) Regulations. 2006. 															
7.	Communication	<ol style="list-style-type: none"> The wind and solar generator or QCA or Aggregator whose scheduling is done by the SLDCs, shall provide full data telemetry and communication facilities to the SLDC. A preparatory window shall be provided by the SLDC to the wind and solar generator or their QCA or Aggregator to ensure installation of data measurement and telemetry equipment and for the SLDC to prepare its systems and teams for receipt of regular data and schedules. 															
8.	Telemetry	Data telemetry shall be adopted at the turbine/inverter level. Parameters such as turbine availability, power output and real-time weather measurements (wind speed, temperature, pressure etc.) shall be provided by each Wind and Solar generator directly or through their QCA or Aggregator to the SLDC.															
9.	Deviation Settlement Mechanism (DSM) for Wind and Solar Generators	<p>1. Tolerance limits and deviation bands: The permissible deviation for all the wind and solar plants shall be $\pm 15\%$ (within the limits of $>85\%$ & $<115\%$). There shall not be any DSM charges, if the deviation of generation is within the specified limits of $\pm 15\%$ (i.e. between 85% to 115% of the schedule).</p> <p>2. The energy charges shall be paid to the generators,</p> <ol style="list-style-type: none"> As per the actual energy supplied irrespective of the Schedule quantum of energy for the generators for intra- State Transactions As per the Schedule energy for the inter – State transactions which are governed by the CERC Regulations. <p>3. The Wind and Solar generators having PPA with the ESCOMs or directly supplying power to consumers within the State by availing open access for wheeling the power, shall be liable to pay to DSM pool account for any deviations of the schedules at the rates shown in the following table:</p>															
		<table border="1" data-bbox="565 1522 1442 1890"> <thead> <tr> <th data-bbox="565 1522 657 1591">Sr. No.</th> <th data-bbox="657 1522 836 1591">Particulars</th> <th colspan="2" data-bbox="836 1522 1047 1591">Deviation Range</th> <th data-bbox="1047 1522 1442 1591">Deviation charges payable to the State DSM pool</th> </tr> </thead> <tbody> <tr> <td data-bbox="565 1591 657 1789">1</td> <td data-bbox="657 1591 836 1789">For wind and solar generators having PPAs with ESCOMs and/or</td> <td data-bbox="836 1591 933 1654">$>\pm 15\%$</td> <td data-bbox="933 1591 1047 1654">$<\pm 25\%$</td> <td data-bbox="1047 1591 1442 1789">Rs 0.50 per kWh for the quantum of short fall or excess energy beyond $\pm 15\%$ and up to $\pm 25\%$ of deviation from the schedule (ie $\pm 10\%$ above tolerable limits of $\pm 15\%$)</td> </tr> <tr> <td data-bbox="565 1789 657 1890">2.</td> <td data-bbox="657 1789 836 1890">supplying power to consumers</td> <td data-bbox="836 1789 933 1890">$>\pm 25\%$</td> <td data-bbox="933 1789 1047 1890">$<\pm 35\%$</td> <td data-bbox="1047 1789 1442 1890">Rs 0.50 per kWh up to $\pm 25\%$ deviation +(Rs 1.0 per kWh for the remaining quantum of short</td> </tr> </tbody> </table>	Sr. No.	Particulars	Deviation Range		Deviation charges payable to the State DSM pool	1	For wind and solar generators having PPAs with ESCOMs and/or	$>\pm 15\%$	$<\pm 25\%$	Rs 0.50 per kWh for the quantum of short fall or excess energy beyond $\pm 15\%$ and up to $\pm 25\%$ of deviation from the schedule (ie $\pm 10\%$ above tolerable limits of $\pm 15\%$)	2.	supplying power to consumers	$>\pm 25\%$	$<\pm 35\%$	Rs 0.50 per kWh up to $\pm 25\%$ deviation +(Rs 1.0 per kWh for the remaining quantum of short
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			availing open access facilities for wheeling the power within the State			fall or excess of energy for deviation from schedule beyond $\pm 25\%$ & up to $\pm 35\%$
		3.		more than 35 %		Rs 0.50 Ps per kWh up to $\pm 25\%$ deviation + Rs 1.0.per kWh for the remaining quantum of short fall or excess of energy from deviation to schedule beyond $\pm 25\%$ up to $\pm 35\%$ + (plus) Rs 1.50 per kWh for the quantum of short fall or excess of energy beyond $\pm 35\%$ deviation from schedule
		The SLDC shall maintain the pool account of collection of the DSM charges.				
10.	Schedule of payment of charges for Deviation	<ol style="list-style-type: none"> 1. The payment of charges for deviation shall have a high priority and the concerned constituent shall pay the indicated amounts, within 10 (ten) days of the issue of Statement of charges for deviation by the SLDC, into to the 'State Deviation Pool Account Fund'. 2. If the payments against the Charges for Deviation are delayed by more than two days i.e., beyond 10 (ten) days from the date of issue of the Statement by the SLDC, the defaulting constituent shall have to pay simple interest at 0.04% for each day of delay. 				
11.	Application of fund collected through Deviations	The amount collected in the Deviation Pool Account Fund by the SLDC as on the last day of the financial year shall be transferred to a separate Fund called as 'Power System Development Fund' to be utilized for the purpose as specified by the State Commission.				