

# Andhra Pradesh Forecasting, Scheduling and Deviation Settlement of Solar Wind Generation Regulations, 2017

## HIGHLIGHTS

Applicability	<ul style="list-style-type: none"> <li>• For all wind and solar generators connected to the grid including those connected through pooling substation.</li> <li>• For sale of power within or outside the state.</li> </ul>
Forecasting and Scheduling Code	<ul style="list-style-type: none"> <li>• Qualified coordinating agency (QCA) or the generator shall provide to the State Load Dispatch Center (SLDC) technical specifications in the format prescribed by it.</li> <li>• Concerned generator shall provide real-time power generation parameters and weather data to the SLDC.</li> <li>• Generator or the QCA may provide a schedule based on the forecast prepared by SLDC or by itself.</li> <li>• Each QCA shall coordinate and communicate to SLDC, the aggregation of schedules of all its generators connected to a pooling station.</li> <li>• Day-ahead schedule - at intervals of 15-minutes (time block) for the next day starting from 00:00.</li> <li>• Week-ahead schedule - same as day-ahead schedule but forecasted on a weekly basis.</li> <li>• Revision can be done by serving notice to the SLDC; effective from the 4th time-block, the 1st being when notice is given.</li> <li>• Maximum 16 revisions in a day will be allowed, starting from 00:00 hrs for wind generators, and 9 revisions in a day between 05:30 hrs and 19:00 hrs for solar generators.</li> <li>• Any commercial impact of deviation shall be borne by the generator or through the representing QCA.</li> <li>• No firm shall be allowed to be commissioned after 1st January, 2018, without establishment of forecasting tools.</li> </ul>
Role of QCA and Implementation	<ul style="list-style-type: none"> <li>• Single point of contact with SLDC on behalf of its coordinated generators.</li> <li>• Providing schedules with periodic revisions on behalf of wind and solar generators.</li> <li>• Coordinating with DISCOM/STU/SLDC for metering, data collection, communication and issuance of instructions for dispatch and curtailment.</li> <li>• Undertaking commercial settlement arising out of any deviations on behalf of generators.</li> <li>• All other ancillary and incidental matters.</li> </ul>

Energy Accounting  
and Deviation  
Settlement

- Energy accounting and payment will be as per specified procedures.
- Deviations for intra-state and inter-state transactions shall be accounted for separately.
- QCA shall separately settle deviation charges for inter-state and intra-state transactions.
- QCA shall de-pool energy deviation as well as deviation charges to each of the generators connected to the pool.
- QCA will have the options to adopt 'virtual pooling' in agreement with generators in different pooling stations to aggregate the forecasting and scheduling of the different pooling stations.

## OTHER PROVISIONS

Deviation charges for Intrastate Transactions	For over or under injection for sale or supply of power within the state.	
	Absolute Error in the 15-Minute Time Block	Deviation Charges Payable to the State Pool Account
	Absolute error $\leq 15\%$	None
	$15\% < \text{absolute error} \leq 25\%$	@ Rs.0.50 per unit.
	$25\% < \text{absolute error} \leq 35\%$	@ Rs.0.50 per unit beyond 15% and up to 25%, + @ Rs.1 per unit for balance energy beyond 25% and up to 35%.
	Absolute error $> 35\%$	@ Rs.0.50 per unit beyond 15% and up to 25%, + @ Rs.1 per unit for balance energy beyond 25% and up to 35%, + @ Rs.1.50 per unit for balance energy beyond 35%.

Deviation charges in case of Under Injection for Interstate Transactions	Absolute Error in the 15-Minute Time Block	Deviation Charges Payable to the State Pool Account
	Absolute error $\leq 15\%$	Fixed rate*
	$15\% < \text{absolute error} \leq 25\%$	Fixed rate for shortfall up to 15%, + @ 110% of fixed rate for balance energy beyond 15% and up to 25%.
	$25\% < \text{absolute error} \leq 35\%$	Fixed rate for shortfall up to 15%, + @ 110% of fixed rate for balance energy beyond 15% and up to 25%, + @ 120% of fixed rate for balance energy beyond 25% and up to 35%.
	Absolute error $> 35\%$	Fixed rate for shortfall up to 15%, + @ 110% of fixed rate for balance energy beyond 15% and up to 25%, + @ 120% of fixed rate for balance energy beyond 25% and up to 35%, + @ 130% of the fixed rate for balance energy beyond 35%.
	*Fixed rate for generators selling power which is accounted for RPO compliance of the buyer shall be power purchase agreement rate. Fixed rate for open access participants selling power which is not accounted for RPO compliance of buyer and captive power plants shall be the national level average power purchase cost.	
Deviation Charges in case of Over Injection for Interstate Transactions	Absolute Error in the 15-Minute Time Block	Deviation Charges Payable to the State Pool Account
	Absolute error $\leq 15\%$	Fixed rate**
	$15\% < \text{absolute error} \leq 25\%$	Fixed rate for shortfall up to 15%, + @ 90% of fixed rate for balance energy beyond 15% and up to 25%.
	$25\% < \text{absolute error} \leq 35\%$	Fixed rate for shortfall up to 15%, + @ 90% of fixed rate for balance energy beyond 15% and up to 25%, + @ 80% of fixed rate for balance energy beyond 25% and up to 35%.
	Absolute error $> 35\%$	Fixed rate for shortfall up to 15%, + @ 90% of fixed rate for balance energy beyond 15% and up to 25%, + @ 80% of fixed rate for balance energy beyond 25% and up to 35%, + @ 70% of the fixed rate for balance energy beyond 35%.
	**Fixed rate for generators selling power, which is accounted for RPO compliance of the buyer, shall be at the power purchase agreement rate. Fixed rate for open access participants selling power, which is not accounted for RPO compliance of buyer and captive power plants, shall be at the national level average power purchase cost.	

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References	<a href="http://www.aperc.gov.in/aperc1/assets/uploads/files/5cb4f-forecast-regulation.pdf">http://www.aperc.gov.in/aperc1/assets/uploads/files/5cb4f-forecast-regulation.pdf</a>