APP Comments on Proposed Framework on "Forecasting, Scheduling & ImbalanceHandling for Renewable Energy (RE) Generating Stations based onwind and solar at Inter-State Level"

1. Narrow operating band with penalties within the band

The Draft Framework document has itself stated that deviations from schedule are bound to occur for the wind/solar generator as wind/solar energy generation is variable and intermittent. Further, the draft framework document also states that Renewable Energy Management Centers (REMCs) are being established which would be equipped with advanced forecasting tools. Keeping this practical reality in mind, it is felt that the proposed band of +/- 12% is very stringent and there needs to be a gradual reduction in the operating band instead of a drastic reduction from +/- 30% to the proposed +/- 12%.

Further, the wind/solar generators are being penalized within this allowed band of +/- 12%. The tables below show the net revenue inflow for solar/wind generators based on the proposed band. It can be seen that within the range of 88% to 100% of schedule, the solar/wind generator receives a net inflow of only Rs 0.5 per unit of energy generated. This effectively means that the wind/solar generator is being allowed only half of the proposed +/-12% band within which the generator can operate without being penalized. This is a very stringent and restrictive stipulation keeping in mind the inherent variability associated with wind and solar generation, despite the best forecasting efforts.

Table 1.1 – Net inflow for a Wind Generator

all figures in Rs/kwh

		below 88%	**between 88% to 100%**	**between 100% to 112%**	**beyond 112%**
Outgo for wind generator	penalty for shortfall energy (to DSM pool)	4	3	-	-
	purchase of REC per shortfall energy	1.5	1.5	-	-
	Total Outgo	**5.5**	**4.5**	**0**	**0**
Inflow for wind generator	revenue based on scheduled generation	5	5	0	0
	incentive for excess energy (from DSM pool)	-	-	4	0
	receipt of REC per excess energy	-	-	1.5	1.5
	Total Inflow	**5**	**5**	**5.5**	**1.5**
	Net inflow	**-0.5**	**0.5**	**5.5**	**1.5**

all figures in Rs/kwh

		below 88%	between 88% to 100%	between 100% to 112%	beyond 112%
Outgo for solar generator	penalty for shortfall energy	4	3	0	0
	purchase of REC per shortfall energy	3.5	3.5	0	0
	Total Outgo	**7.5**	**6.5**	**0**	**0**
Inflow for solar generator	revenue based on scheduled generation	7	7	0	0
	incentive for excess energy (from DSM pool)	-	-	4	0
	receipt of REC per excess energy	-	-	3.5	3.5
	Total Inflow	**7**	**7**	**7.5**	**3.5**
	Net inflow	**-0.5**	**0.5**	**7.5**	**3.5**

Table 1.2 – Net inflow for a Solar Generator

Accordingly the following suggestions are requested to be considered by the Honb'le Commission:

- **The operating band of +/-12% may be revised to +/-30% as earlier implemented.**
- **There should be no imposition of penalty within this operating band. Any penalty for deviation should be applicable only outside the allowed operating band.**
- **Further, RE sources which are presently under Must Run category may have to back down in order to avoid penalties – the Hon'ble Commission is requested to look into this aspect.**

2. Inclusion of additional cost of forecasting in the generic tariff

The setting up of a reliable and workable mechanism for accurate forecasting and scheduling of RE power involves substantial investment in equipment for telemetry, SCADA, communications etc, and also in human resources and consultant fees. All this has an impact on the capital cost and therefore it is recommended that the generic tariff determined by the Commission should be revised appropriately to recover this cost.

3. Settlement of shortfalls through REC issued to Generators

As per the mechanism for shortfall in generation even for one time block in a day, the wind/solar generator needs to purchase RECs from exchanges and give into the buyer account, and for excess generation in any time block, the generators shall be issued RECs.At present, the REC mechanism is not settled and RECs to the tune of 1.1 Crore are waiting to be traded in the market. In this backdrop, it is suggested that instead of the above, the Hon'ble Commission may allow off set/transfer of issued RECs from generator's account to buyer account on a monthly/quarterly basis as this would help the Generator to clear off his RECs which have been issued to him during excess generation. In case of further short supply, the RE generators can procure RECs from the power exchanges. Further, it is also recommended that the validity of the RECs may be increased to 5 years till the time the RPO compliance situation improves.

4. Applicability of this mechanism on projects registered under REC mechanism

Projects which are registered under REC mechanism supply non-preferential power to Discoms and any shortfall in generation by these projects to the Discoms does not impact the RPO obligation of the Discom. Therefore, the Hon'ble Commission is requested to clarify on the applicability of the proposed framework for the developers whose projects are under REC mechanism.