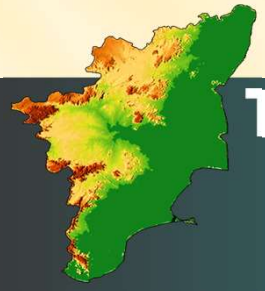

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TNERC (FORECASTING, SCHEDULING AND DEVIATION SETTLEMENT AND RELATED MATTERS FOR WIND AND SOLAR GENERATION) REGULATIONS, 2023

TECA-TECHNICAL COMMITTEE MEETING

TECA TAMILNADU ELECTRICITY CONSUMERS ASSOCIATION

NOV 25, 2023, COIMBATORE

4. APPLICABILITY

4.1 These Regulations shall apply to all Wind and Solar Energy Generators (excluding Rooftop PV Solar power projects of capacity less than 1 MW) in Tamil Nadu connected to the Intra-State Transmission System or Distribution System, including those connected through Pooling sub-stations, and using the power generated for self-consumption or sale within or outside the State.

4.2 The Commission shall review these Regulations including formulation for Absolute Error, Accuracy Band and Deviation charge thereof after two years, or earlier if it considers necessary.

5. FORECASTING AND SCHEDULING CODE

5.1. The Wind / Solar Energy Generators shall appoint a single QCA to represent on their behalf and comply with the requirements of forecasting and scheduling separately.

Provided that the QCA authorized by **the majority of the generators in the State shall be engaged as a single QCA** for all the respective wind/solar generators separately in the State and the terms and conditions for engagement of single QCA shall be governed by the mutual agreement between the respective generators and the QCA.

Provided that the wind/solar generators **who do not wish to avail the services** of the single QCA appointed by the majority of the generators shall have the option to avail the services of the **SLDC for forecasting and scheduling services**.

5. FORECASTING AND SCHEDULING CODE

Provided that the service charges for forecasting and scheduling services along with applicable taxes shall be payable to the single QCA / SLDC by the generators as the case may be.

Provided that an **individual Generator connected to a sub-station** that is designated as a Pooling sub-station as defined in 2(q) of this regulation may opt to function as a **QCA on its own or appoint a separate entity** as its QCA. However, multiple QCA(s) for single pooling sub-station will not be permitted.

Provided that the wind/solar generators of the **Pooling sub-station(s) having aggregate capacity upto 25 MW** may aggregate their forecast, schedule with the QCA of the nearest Pooling sub-station.

Provided further that, such wind/solar generators shall obtain concurrence of SLDC. The decision of SLDC in this regard shall be binding on the wind/solar generators.

5. FORECASTING AND SCHEDULING CODE

(b) De-pooling of Deviation Charges within the constituent Generators and intimating the deviation charges to the SLDC and the respective generators.

(c) In case of single QCA chosen by the wind/solar generators, such single QCA is responsible for state level aggregation of scheduled generation for selling out power within Tamil Nadu and outside Tamil Nadu separately.

(d) The minimum term period of **agreement between the QCA and the wind/solar generators** shall be **two years.**

Until new arrangement is put in place, **existing QCA shall continue for further period up to 1 year.**

(e) The SLDC in their detailed procedure shall specify the qualification and other criterions viz. Business Rules/Net worth requirement etc. for the QCA.

5. FORECASTING AND SCHEDULING CODE

5.13. The QCA(s) shall aggregate the separate Schedules of all Wind / Solar generators connected to the intra-state network / Pooling sub-station and communicate to the SLDC.

Provided that in case of single QCA, the QCA shall aggregate the generation of all wind/solar generators separately for the entire State and communicate as single separate schedule for wind and solar respectively to the SLDC for each time block with respect to intra and inter-state transactions.

5.14. If the QCA has difficulty to aggregate the generation of wind/solar for the entire State, they may provide schedules for each pooling station individually and in such case, the deviation charges will be calculated pooling sub-station wise.

5. FORECASTING AND SCHEDULING CODE

5.15. **No Wind or Solar energy generation shall be despatched by the SLDC without schedule** by the QCA on behalf of the Generators in accordance with the provisions of these Regulations. The generation from those generators not participating in the forecasting and scheduling activities shall be treated as inadvertent flow into the grid and no charges for such inadvertent injection of power shall be paid and/or no adjustment on consumption shall be made by the SLDC or distribution licensee.

5.16. The QCA shall provide SLDC with a Schedule based on its own forecast, which shall be the reference Schedule for the purposes of deviation determination and settlement: Provided that, if the Generators/QCA opts to adopt the forecast of the SLDC, the consequences of any error in such forecast which results in **deviations from scheduling shall be borne by the concerned Generators/QCA** only.

5. FORECASTING AND SCHEDULING CODE

5.17. In addition to the deviation charges collected by the SLDC from the generators, it shall also **recover the charges** towards the forecasting and scheduling services provided by the QCA to the generators and such charges shall be mutually agreed between the generators and the QCA or as decided by the Commission. **The amount so recovered by the SLDC shall be paid back to the respective QCA nominated by the generators.**

The SLDC shall also recover charges as may be approved by the Commission for providing its forecasting services to the Generators/QCA and the amount so recovered shall be treated as "other income" in the Aggregate Revenue Requirement of the SLDC for the determination of its Fees and Charges.

ABSOLUTE ERROR

$$\text{Absolute Error (\%)} = \frac{[\text{Actual Generation} - \text{Scheduled Generation}]}{[\text{Scheduled Generation}]} \times 100$$

Provided that when the **scheduled generation is zero** and if there is actual generation in a particular 15 minutes block by the wind/solar generator(s), only **70% of the actual generation** will be considered as scheduled generation;

7. DEVIATION SETTLEMENT FOR INTRA-STATE TRANSACTIONS

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Table 1: Deviation Charge for under or over injection of **Wind Power,** for sale or self-consumption of power within Tamil Nadu.

Sl. No.	Absolute error in % terms in 15-minute time block	Deviation charge payable to state deviation pool account (wind and solar)
1	<= 15%	Nil
2	>15% but <=20%	At Rs.0.25 per unit
3	> 20% but <= 30%	At Rs.0.25 per unit for the shortfall or excess beyond 15% and upto 20% + Rs. 0.50 per unit for the balance energy beyond 20% and upto 30%
4	>30%	At Rs. 0.25 per unit for the shortfall or excess beyond 15% and upto 20% + Rs. 0.50 per unit for the shortfall or excess beyond 20% and up to 30% + Rs.1.25 per unit for the balance energy beyond 30%

7. DEVIATION SETTLEMENT FOR INTRA-STATE TRANSACTIONS

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WORKINGS FOR WIND POWER FORECASTING

DSM Calculations - FY2024			
Month	Gen MU	DSM Rs. (Crore)	DSM Rs. Per KWh
Apr	248.21	4.34	0.17
May	869.36	4.95	0.06
Jun	2389.69	2.51	0.01
Jul	2828.29	1.23	0.00
Aug	2007.76	4.07	0.02
Sep	2237.44	5.18	0.02
Oct	489.41	3.93	0.08
Nov*	99.39	2.69	0.27
Dec			
Jan			
Feb			
Mar			
Total	**11169.56**	**28.90**	**0.03**
			2.59 Paise
***As on Nov 21st, 2023**			

DSM Calculations - FY2023			
Month	Gen MU	DSM Rs. (Crore)	DSM Rs. Per KWh
Apr	215.08	6.95	0.32
May	1687.95	6.49	0.04
Jun	2031.31	6.52	0.03
Jul	2215.92	3.04	0.01
Aug	1988.45	3.58	0.02
Sep	1789.98	3.12	0.02
Oct	691.57	4.68	0.07
Nov	142.58	3.88	0.27
Dec	416.50	4.27	0.10
Jan	484.26	2.78	0.06
Feb	381.15	2.39	0.06
Mar	452.20	4.58	0.10
Total	**12496.95**	**52.27**	**0.04**
Annual Avg.			**4.18 Paise**
For The Period Apr-Nov			**3.32 Paise**

DSM Calculations - FY2022			
Month	Gen MU	DSM Rs. (Crore)	DSM Rs. Per KWh
Apr	388.68	7.15	0.18
May	1141.99	6.08	0.05
Jun	1881.26	8.75	0.05
Jul	2092.95	6.30	0.03
Aug	2064.19	5.91	0.03
Sep	1674.75	8.09	0.05
Oct	653.31	6.61	0.10
Nov	274.46	6.78	0.25
Dec	274.65	3.31	0.12
Jan	285.89	3.87	0.14
Feb	233.94	3.96	0.17
Mar	364.25	6.93	0.19
Total	**11330.32**	**73.76**	**0.07**
Annual Avg.			**6.51 Paise**
For The Period Apr-Nov			**5.47 Paise**

7. DEVIATION SETTLEMENT FOR INTRA-STATE TRANSACTIONS

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Table 2: Deviation Charge for under or over injection of **Solar Power**, for sale or self-consumption of power within Tamil Nadu.

Sl. No.	Absolute error in % terms in 15-minute time block	Deviation charge payable to state deviation pool account (wind and solar)
1	<= 10%	Nil
2	>10% but <= 20%	At Rs.0.25 per unit
3	> 20% but <= 30%	At Rs.0.25 per unit for the shortfall or excess beyond 10% and upto 20% + Rs. 0.50 per unit for the balance energy beyond 20% and upto 30%
4	>30%	At Rs. 0.25 per unit for the shortfall or excess beyond 10% and upto 20% + Rs. 0.50 per unit for the shortfall or excess beyond 20% and up to 30% + Rs.1.25 per unit for the balance energy beyond 30%

7. DEVIATION SETTLEMENT FOR INTRA-STATE TRANSACTIONS

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7.3. The SLDC and the QCA (except for the QCA responsible for the state-wide aggregation) shall maintain records and accounts of the time block-wise Schedules, the actual generation injected and the deviations, for every Pooling sub-station, the individual Generators and state-wide aggregation separately.

7.4. The QCA shall undertake de-pooling of the energy deviations and the Deviation Charges against each Generator as specified in Regulation 14.

7.5. The concerned Generators shall undertake the settlement of the Deviation Charges with the SLDC.

7.6. The total deviation charges remitted on account of deviations by wind / solar generator(s) into State Deviation Pool Account in a financial year shall be capped at the Ceiling Rate of 5 paise per unit multiplied by the total annual generation at the respective Pooling sub-station(s)/total generated units in state-wide aggregation.

Provided that the Commission may **refix the ceiling rates every year** based on the true-up petition filed by the SLDC for the preceding year.

7. DEVIATION SETTLEMENT FOR INTRA-STATE TRANSACTIONS

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7.7. In addition to the above charges, the forecasting service charges based on the installed capacity of wind/solar generating station along with applicable taxes as agreed between Generators and QCA or as ordered by the Commission is to be remitted with SLDC by the generators and the SLDC will pay the charges towards forecasting services to QCA.

7.8 The deviations due to forced backdown or abnormal weather conditions like cyclone, heavy rainfall, flood, gusty wind, if intimated by the QCA to the SLDC well before six hours of occurrence shall be excluded from the scope of deviation charges.

13. PAYMENT MECHANISM FOR DEVIATION SETTLEMENT AND PAYMENT SECURITY

The SLDC shall prepare the bill for the actual deviation charges for each generator on or before 15th of every month and post the same in their website, which can be viewed by the QCA(s)/Generators and the any excess or shortfall amount to the generator will be reconciled and included in the next billing month. The billing prepared by the SLDC includes deviation charges to be paid to the State Pool account and the forecasting charges to be pai d to the QCA.

13.2 **The said charges shall be paid within 10 days from the date of publishing of charges by the SLDC in their website.** If payments of the above charges are delayed by more than 2 days i.e. **beyond 12 days from the date of issue of statement, a simple interest of 0.06% for each day of delay shall be levied.** This is without prejudice to any action that may be taken under Section 142 of the Act in addition to any action under Section 56 of the Act and other relevant Regulations. Further, **any excess or shortfall in the deviation charges will be reconciled at the end of every financial year and collection from generators or refund to generators shall be done by SLDC within 60 days on completion of every financial year.**

Provided that in case of delay in the Payment of Deviation Charges and interest thereon if any, beyond 12 days from the date of issue of the statement of charges for deviations, the QCAs/ generators who have to receive payments for earliest thereon, shall be paid from the balance available in the State Deviation Pool Account (Wind and Solar). **In case the balance available is not sufficient to meet the payments to the QCAs, the payment shall be made on pro rata basis from the balance available.**

COMMENTS & SUGGESTIONS

Ref No.	Draft Regulations 2023	Comments & Suggestions
2. (a)	Provided that when the scheduled generation is zero and if there is actual generation in a particular 15-minute block by the wind/solar generator(s), only 70% of the actual generation will be considered as scheduled generation;	Provided that when the scheduled generation is zero and if there is actual generation in a particular 15-minute block by the wind/solar generator(s), **only 85% of the actual generation** will be considered as scheduled generation;
4.2	The Commission shall review these Regulations including formulation for Absolute Error, Accuracy Band and Deviation charge thereof after two years, or earlier if it considers necessary	The Commission shall review these Regulations including formulation for Absolute Error, Accuracy Band and Deviation charge thereof **after three years,** or earlier if it considers necessary
5.1	Provided that the wind/solar generators who do not wish to avail the services of the single QCA appointed by the majority of the generators shall have the option to avail the services of the SLDC for forecasting and scheduling services.	**In case of engaging single QCA mandated by majority of the generators in the state connected to the intra state transmission network, the other generators connected in the intra state transmission network of the state have to accept the option to avail these services of SLDC for forecasting & Scheduling services.**

COMMENTS & SUGGESTIONS

Ref No.	Draft Regulations 2023	Comments & Suggestions
5.1	Provided that an individual Generator connected to a sub-station that is designated as a Pooling sub-station as defined in 2(q) of this regulation may opt to function as a QCA on its own or appoint a separate entity as its QCA. However, multiple QCA(s) for single pooling sub-station will not be permitted.	***In case of engaging single QCA at the state level, this proviso may not be required. Hence, the proviso is to be modified as below.*** **Provided that in case of not engaging single QCA at the state level,** an individual Generator connected to a sub-station that is designated as a Pooling sub-station as defined in 2(q) of this regulation may opt to function as a QCA on its own or appoint a separate entity as its QCA. However, multiple QCA(s) for single pooling sub-station will not be permitted.
4.2	Provided that the wind/solar generators of the Pooling sub-station(s) having aggregate capacity up to 25 MW may aggregate their forecast, schedule with the QCA of the nearest Pooling sub-station. Provided further that, such wind/solar generators shall obtain concurrence of SLDC. The decision of SLDC in this regard shall be binding on the wind/solar generators.	**Provided that in case of not engaging single QCA at the state level,** the wind/solar generators of the Pooling sub-station(s) having aggregate capacity up to 25 MW may aggregate their forecast, schedule with the QCA of the nearest Pooling sub-station. Provided further that, such wind/solar generators shall obtain concurrence of SLDC. The decision of SLDC in this regard shall be binding on the wind/solar generators.

COMMENTS & SUGGESTIONS

Ref No.	Draft Regulations 2023	Comments & Suggestions
5.2	This Forecasting and Scheduling Code specifies the methodology for Day-Ahead scheduling of Wind and Solar Energy Generators connected to the intra-State Transmission Network (Transmission and Distribution system), its revisions on a one and a half hourly basis, and the treatment of their deviations from such Schedules. Wind and Solar generators, either by themselves or represented by Qualified Coordinating Agencies shall comply with the requirements of forecasting and scheduling code as stipulated under these Regulations.	This Forecasting and Scheduling Code specifies the methodology for Day-Ahead scheduling of Wind and Solar Energy Generators connected to the intra-State Transmission Network (Transmission and Distribution system), **its revisions** and the treatment of their deviations from such Schedules. Wind and Solar generators, either by themselves or represented by Qualified Coordinating Agencies shall comply with the requirements of forecasting and scheduling code as stipulated under these Regulations.
5.6(c)	In case of single QCA chosen by the wind/solar generators, such single QCA is responsible for state level aggregation of scheduled generation for selling out power within Tamil Nadu and outside Tamil Nadu separately.	In case of single QCA chosen by the wind/solar generators, such single QCA is responsible for state level aggregation of scheduled generation for selling out power within Tamil Nadu and outside Tamil Nadu separately. **In case of engaging more than one QCA by wind/solar generators, the respective QCA is responsible for providing schedule for their generators to whom they are responsibility and carry out all responsibilities of QCA.**

COMMENTS & SUGGESTIONS

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<table>
<tr><th>Ref No.</th><th>Draft Regulations 2023</th><th>Comments & Suggestions</th></tr>
<tr><td>7.2</td><td>
Table 1: Deviation Charge for under or over injection of <u>wind power</u>, for sale or self-consumption of power within Tamil Nadu.
<table>
<tr><th>Sl. No.</th><th>Absolute error in % terms in 15-minute time block</th><th>Deviation charges payable to state deviation pool account (wind and solar)</th></tr>
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COMMENTS & SUGGESTIONS

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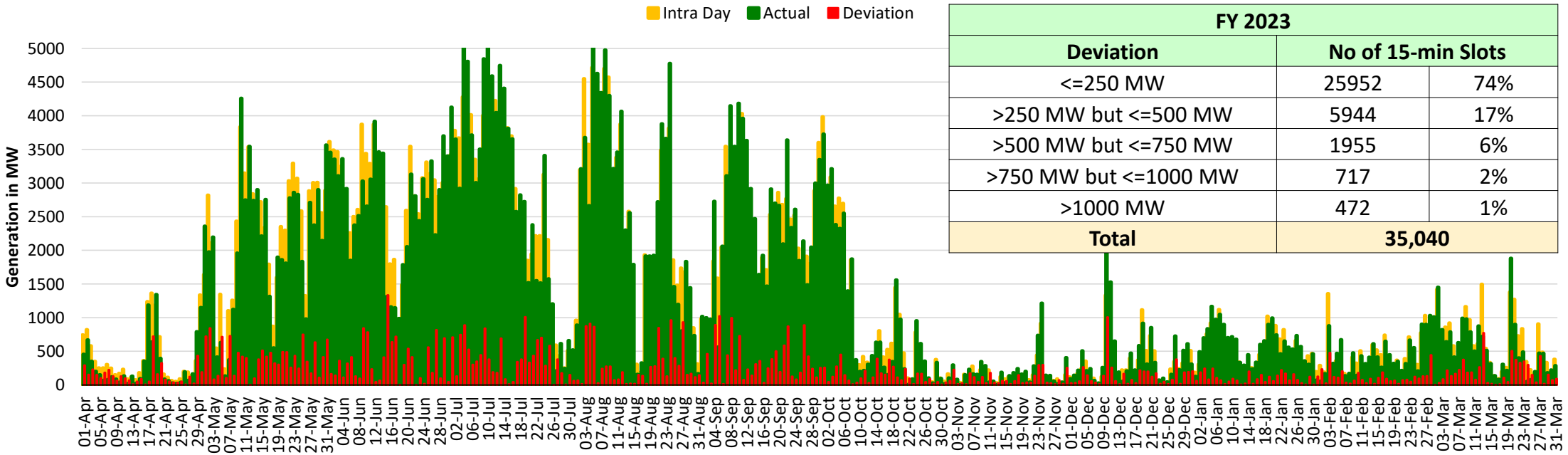
COMMENTS & SUGGESTIONS

Ref No.	Draft Regulations 2023	Comments & Suggestions
7.6	The total deviation charges remitted on account of deviations by wind / solar generator(s) into State Deviation Pool Account in a financial year shall be capped at the Ceiling Rate of 5 paise per unit multiplied by the total annual generation at the respective Pooling sub-station(s)/total generated units in state-wide aggregation. Provided that the Commission may refix the ceiling rates every year based on the true- up petition filed by the SLDC for the preceding year.	The total deviation charges remitted on account of deviations by wind / solar generator(s) into State Deviation Pool Account in a financial year shall be capped at the **Ceiling Rate of 2 paise per unit** multiplied by the total annual generation at the respective Pooling sub-station(s)/total generated units in state-wide aggregation. Provided that the Commission may refix the ceiling rates **every three years** based on the true- up petition filed by the SLDC for the preceding year.
11. (C)	Communication of Grid constraints and curtailments by the SLDC to the QCA.	Communication of **Planned Grid constraints and curtailments** shall be intimated a day in advance. **If unplanned Grid curtailments happened due to breakdown shall be intimated within 4 blocks of Grid drop by the SLDC to the QCA.**

COMMENTS & SUGGESTIONS

Ref No.	Draft Regulations 2023	Comments & Suggestions
13.2	The said charges shall be paid within 10 days from the date of publishing of charges by the SLD C in their website. If payments of the above charges are delayed by more than 2 days i.e. beyond 12 days from the date of issue of statement, a simple interest of 0.06% for each day of delay shall be levied. This is without prejudice to any action that may be taken under Section 142 of the Act in addition to any action under Section 56 of the Act and other relevant Regulations. Further, any excess or short fall in the deviation charges will be reconciled at the end of every financial year and collection from generators or refund to generators shall be done by SLDC within 60 days on completion of every financial year.	The said charges shall be paid within 10 days from the date of publishing of charges by the SLDC in their website. If payments of the above charges are delayed by more than 2 days i.e. beyond 12 days from the date of issue of statement, **a simple interest of 0.02%** for each day of delay shall be levied. This is without prejudice to any action that may be taken under Section 142 of the Act in addition to any action under Section 56 of the Act and other relevant Regulations. Further, any excess or short fall in the deviation charges will be reconciled at the end of every financial year and collection from generators or refund to generators shall be done by SLDC within 60 days on completion of every financial year.

INTRA DAY FORECAST VS ACTUAL COMPARISON (FY2023)



FY 2023		
Deviation	**No of 15-min Slots**	
<=250 MW	25952	74%
>250 MW but <=500 MW	5944	17%
>500 MW but <=750 MW	1955	6%
>750 MW but <=1000 MW	717	2%
>1000 MW	472	1%
Total	**35,040**	

Deviation MW	Deviation in 15 Minutes Slot (Month wise)																					
	Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Jan		Feb		Mar	
<=250	2302	80%	1411	47%	1231	43%	1763	59%	1959	66%	1887	63%	2377	80%	2756	93%	2642	89%	2665	90%	2480	83%	2479	83%
>250 but <=500	397	14%	907	30%	861	30%	738	25%	716	24%	690	23%	429	14%	83	3%	258	9%	284	10%	190	6%	391	13%
>500 but <=750	112	4%	404	14%	430	15%	302	10%	190	6%	180	6%	114	4%	37	1%	58	2%	27	1%	17	1%	84	3%
>750 but <=1000	46	2%	143	5%	185	6%	111	4%	77	3%	86	3%	35	1%	4	0%	14	0%	0	0%	1	0%	15	1%
>1000	23	1%	111	4%	173	6%	62	2%	34	1%	37	1%	21	1%	0	0%	4	0%	0	0%	0	0%	7	0%
Total	2880		2976		2880		2976		2976		2880		2976		2880		2976		2976		2688		2976	

90% of the blocks could be managed with 500 MW of balancing generation

Note:- Grid Drop and Machine breakdown not considered

INTRA DAY MONTH-WISE ABSOLUTE ERROR SLOTS FY 2023

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BASED ON AVAILABLE CAPACITY

FY 2023																									
Absolute Error	**No. of Slots**																								
	Apr		**May**		**Jun**		**Jul**		**Aug**		**Sep**		**Oct**		**Nov**		**Dec**		**Jan**		**Feb**		**Mar**		**Total**	**%**
<=15%	2844	99%	2789	94%	2613	91%	2850	96%	2850	96%	2794	97%	2935	99%	2880	100%	2967	100%	2976	100%	2688	100%	2962	100%	34148	97%
>15% but <=20%	36	1%	167	6%	252	9%	122	4%	122	4%	86	3%	38	1%	0	0%	9	0%	0	0%	0	0%	14	0%	846	2%
>20% but <=30%	0	0%	10	0%	15	1%	4	0%	4	0%	0	0%	3	0%	0	0%	0	0%	0	0%	0	0%	0	0%	36	0%
>30%	0	0%	10	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	10	0%
Total	**2880**		**2976**		**2880**		**2976**		**2976**		**2880**		**2976**		**2880**		**2976**		**2976**		**2688**		**2976**		**35040**	

Abs. Error % = ((Scheduled Power – Actual Power)/ Available Capacity) * 100

* This Error Estimation Formula is followed in Other States (SS Wise), but under review by TNERC

Note:- Grid Drop and Machine breakdown not considered

INTRA DAY COMMERCIAL ARRANGEMENT

DSM CHARGES BASED ON AVAILABLE CAPACITY (Abs. Error % = ((Sch Power – Act Power)/ AvC) * 100

S. No	Absolute Error in % terms in 15-minute time block	Deviation Charge payable to State Deviation Pool Account
1	<=15%	None
2	>15% but <=20%	At Rs. 0.25 per unit
3	>20% but <=30%	At Rs. 0.25 per unit for the shortfall or excess beyond 10% and upto 20% + Rs. 0.50 per unit for the balance energy beyond 20% and upto 30%
4	>30%	At Rs. 0.25 per unit for the shortfall or excess beyond 10% and upto 20% + Rs. 0.50 per unit for the balance energy beyond 20% and upto 30% + Rs. 1.00 per unit for the balance energy beyond 30%

FY 2023			
Month	**Gen MU**	**DSM Rs. (Crore)**	**DSM Rs. Per KWh**
Apr	214.60	0.0	0.00
May	1,687.68	0.3	0.00
Jun	2,031.15	0.1	0.00
Jul	2,216.73	0.0	0.00
Aug	1,988.42	0.0	0.00
Sep	1,789.31	-	0.00
Oct	692.48	0.0	0.00
Nov	142.58	-	0.00
Dec	416.49	-	0.00
Jan	484.28	-	0.00
Feb	380.91	-	0.00
Mar	452.39	0.0	0.00
Total	**12,497.00**	**0.51**	**0.00**
Annual Average			**Less than quarter paise**

Note:- Grid Drop and Machine breakdown not considered

TN - INTRADAY MONTH-WISE ABSOLUTE ERROR SLOTS (AS PER LATEST DRAFT)

BASED ON SCHEDULED GENERATION

FY 2023																												
Absolute Error	No of Slots																											
	Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Jan		Feb		Mar		Total	%		
<=15%	349	12.1%	1640	55.1%	1698	59.0%	1963	66.0%	2025	68.0%	1930	67.0%	1002	33.7%	558	33.7%	946	31.8%	1374	46.2%	1156	43.0%	987	33.2%	15628	45%		
>15% but <=20%	137	4.8%	353	11.9%	335	11.6%	224	7.5%	203	6.8%	257	8.9%	225	7.6%	176	7.6%	303	10.2%	347	11.7%	307	11.4%	266	8.9%	3133	9%		
>20% but <=30%	353	12.3%	425	14.3%	370	12.8%	270	9.1%	228	7.7%	331	11.5%	396	13.3%	332	13.3%	448	15.1%	509	17.1%	502	18.7%	460	15.5%	4624	13%		
>30%	2041	70.9%	558	18.8%	477	16.6%	519	17.4%	520	17.5%	362	12.6%	1353	45.5%	1814	45.5%	1279	43.0%	746	25.1%	723	26.9%	1263	42.4%	11655	33%		
Total	**2880**		**2976**		**2880**		**2976**		**2976**		**2880**		**2976**		**2880**		**2976**		**2976**		**2688**		**2976**		**35040**			

Abs. Error % = ((Scheduled Power – Actual Power)/ Scheduled Power) * 100

Note:- Grid Drop and Machine breakdown not considered

PROPOSED FORMULA INTRA DAY COMMERCIAL ARRANGEMENT

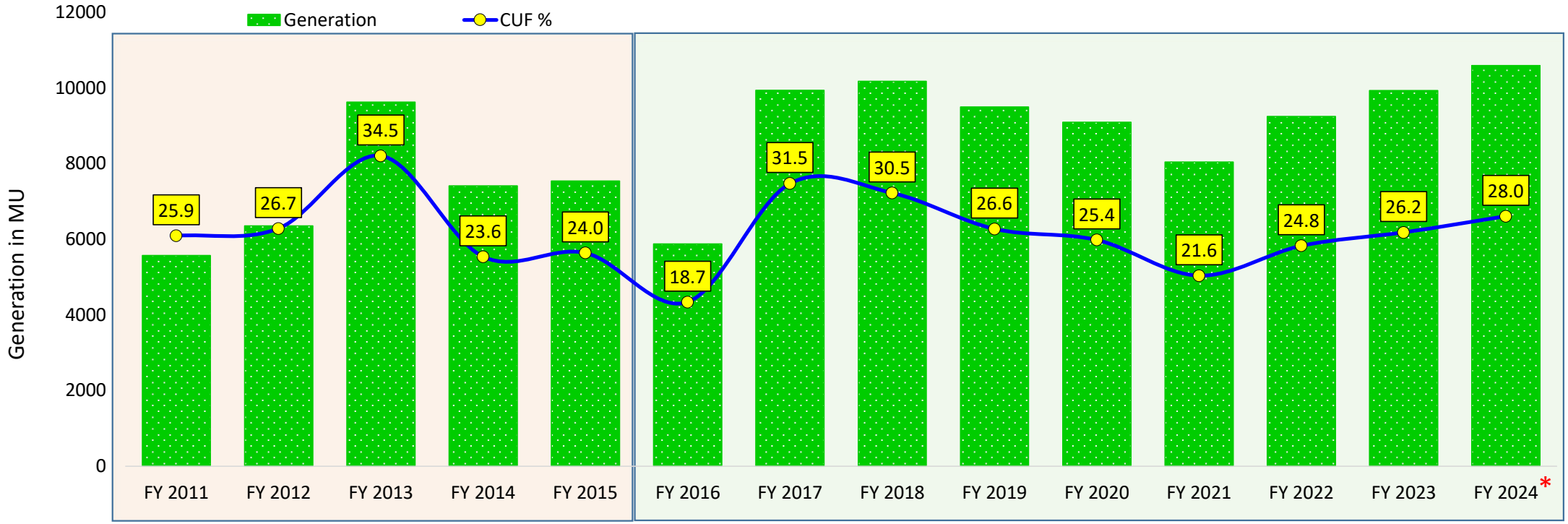
DSM CHARGES BASED ON SCHEDULED POWER (Abs. Error % = ((Sch. Power – Act Power)/ Sch. Power) * 100

S. No.	Absolute error in % terms in 15-minute time block	Deviation charge payable to state deviation pool account (wind and solar)
1	<= 15%	Nil
2	>15% but <=20%	At Rs.0.25 per unit
3	> 20% but <= 30%	At Rs.0.25 per unit for the shortfall or excess beyond 15% and upto 20% + Rs. 0.50 per unit for the balance energy beyond 20% and upto 30%
4	>30%	At Rs. 0.25 per unit for the shortfall or excess beyond 15% and upto 20% + Rs. 0.50 per unit for the shortfall or excess beyond 20% and up to 30% + Rs.1.25 per unit for the balance energy beyond 30%

DSM Calculations - FY2023			
Month	**Gen MU**	**DSM Rs. (Crore)**	**DSM Rs. Per Kwh**
Apr	215.08	6.95	0.32
May	1687.95	6.49	0.04
Jun	2031.31	6.52	0.03
Jul	2215.92	3.04	0.01
Aug	1988.45	3.58	0.02
Sep	1789.98	3.12	0.02
Oct	691.57	4.68	0.07
Nov	142.58	3.88	0.27
Dec	416.50	4.27	0.10
Jan	484.26	2.78	0.06
Feb	381.15	2.39	0.06
Mar	452.20	4.58	0.10
Total	**12496.95**	**52.27**	**0.04**
Annual Avg.			**4.18 Paise**

Note:- Grid Drop and Machine breakdown not considered

GRID AVAILABILITY COMPARISONS



Avg. Capacity (MW)	5034	5427	6701	7149	7149	7149	7386	7624	8308	8488	8488	8507	8618	8621
Generation (MU)	7222.0	7802.4	11311.9	9208.4	8655.4	6905.5	12312.9	12499.9	10999.7	10849.3	10628.2	11332.8	12499.1	10596.4
Grid Availability (%)	95.2	91.13	95.2	79.65	80.4	74.4	93.04	95.15	95.38	93.51	92.11	93.2	96.6	97.1
Grid % Increase		**-4.5%**	**4.3%**	**-19.5%**	**0.9%**	**-8.1%**	**20.0%**	**2.2%**	**0.2%**	**-2.0%**	**-1.5%**	**1.2%**	**3.5%**	**0.5%**

Grid Availability as per Leap Green windmills

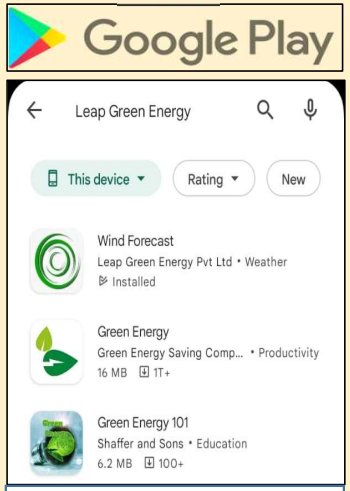
SW Wind : Day Max 117 MU on 04-Jul-2023, Hourly max 5901 MW 10-Sep-2023 15:00 Hrs. Min. Wind 7.23 MU on 29-May-2023

* FY 2024 as on H1

WIND GRID BACKDOWN RECORDING & REPORTING

Leap Green Energy
We Partner Your Tomorrow

1



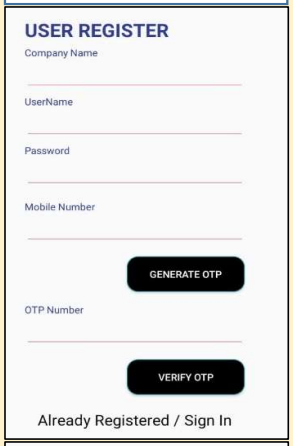
Download Application from Play Store

OR

www.windbuilt.in

2

Sign Up



Sign In

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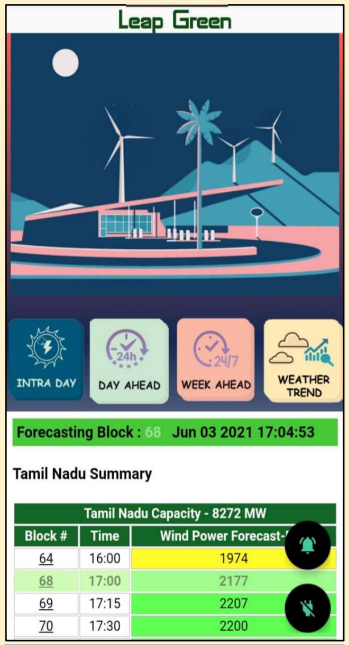

Home Page

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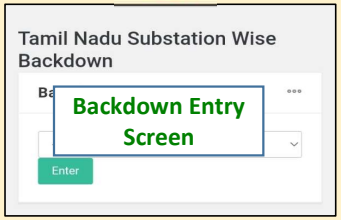

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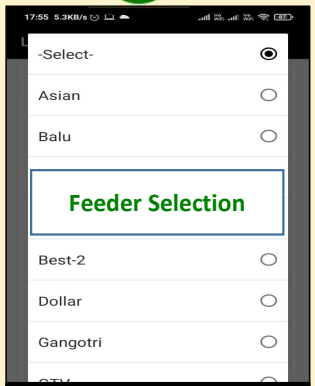

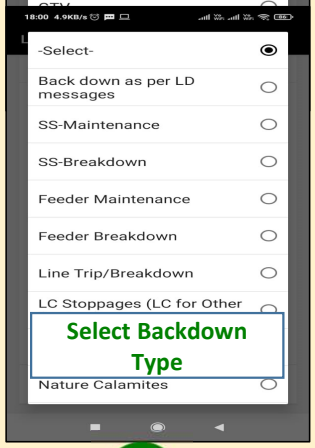

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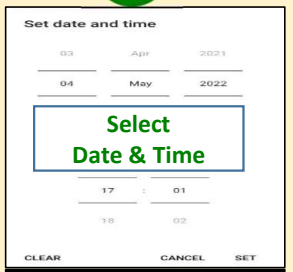

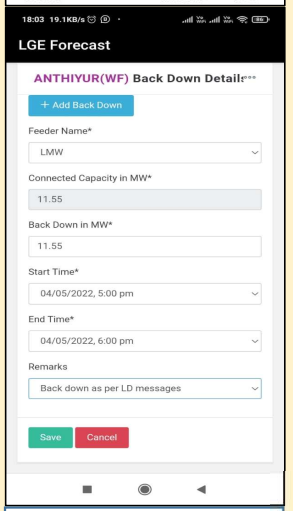

Submit

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Consolidated Backdown Reports

BENEFITS OF STATE LEVEL FORECASTING FOR GENERATORS

1. Better evacuation of wind generations due to improved forecasting at state level
2. Better Grid Availability for wind generators due to better communication between SLDC and wind generators through single QCA
3. Maintenance Planning – Wind generators shall plan their scheduled maintenance activities based on the forecast so as to minimise generation loss
4. Avoid losses on assets due to extreme weather conditions with weather prediction provided by QCA

THANK YOU

REDUCED CARBON EMISSION
103,39,985 Tonnes

REDUCED WATER CONSUMPTION
7253 Million Litres

FY 2024 as on OCT