

Annexures to IWPA Letter dated 27.1.2018 to TNERC

2. (g): De-Pooling means the disaggregation and apportionment of the deviations and the applicable charges among the Generators at one or more Pooling Sub-Stations as aggregated by QCA under this regulations for the purposes of Scheduling and Forecasting.

Sl. No.	Draft Regulations	Corrections Required	Reason for the correction
1	1.2 These Regulations shall come into force from the date of publication in the Tamil Nadu Government Gazette: Provided that the Commercial Arrangements specified in these Regulations, and the related provisions regarding Deviation Charges and penalty, shall come into force six months thereafter.	1.2 These Regulations shall come into force from the date of publication in the Tamil Nadu Government Gazette: Provided that the Commercial Arrangements specified in these Regulations, and the related provisions regarding Deviation Charges and penalty, shall come into force one year thereafter.	Both the SLDC and Wind Energy Generators (WEGs) shall appoint forecasting agency and go for a trial run for a minimum period of one year. Detailed Procedure has to be approved by the Commission after considering the Comments of the stakeholders. Actual trial run with forecasting and scheduling has to be done by WEGs and SLDC for a period of one year. Considering all the above prerequisites one year trial run/ training/ acquaintance period is very essential.
2	2.1 q. "Qualified Coordinating Agency" (or "QCA") means the agency appointed by the Wind or Solar Energy Generators connected to a Pooling Sub-Station, or by an individual Generator connected directly to a Sub-Station, to perform the functions and discharge the obligations specified in these Regulations;	2.1.q. The definition of Qualified Coordinating Agency shall be substituted as below: 'Qualified Coordinating Agency or QCA' means the agency coordinating on behalf of Wind/Solar Generators connected to one or more pooling stations . QCA may be one of the generators or any other mutually agreed agency for the	The SLDC is giving only one schedule for the wind power for the state to the RLDC. Hence, there should not be any restriction to appoint QCA for each pooling sub-station. Regulation 5.2 recognises the QCA as State Entity and hence a QCA may even represent all the WEGs in the State.

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		<p>following purposes:</p> <ul style="list-style-type: none"> * Provide schedules with periodic revisions as per this regulation on behalf of all the Wind/Solar Generators connected to the pooling station(s), * Responsible for metering, data collection/transmission, communication, coordination with DISCOMS, SLDC and other agencies. * Undertake commercial settlement of all charges on behalf of the generators, including payments to the State UI pool accounts through the concerned SLDC directly or through Discoms. * Undertake de-pooling of payments received on behalf of the generators from the State UI Pool account and settling them with the individual generators directly or through Discoms. * Undertake commercial settlement of any other charges on behalf of the generators as may be mandated from time to time. <p>QCA shall be treated as a State Entity.</p>	
3	2.1.(s) "Scheduled Drawal" for a time block or other time period means the Schedule of despatch in MWh ex-bus provided by the State Load Despatch Centre;	2.1.(s) "Scheduled Drawal" for a time block or other time period means the Schedule of despatch in MW or MWh ex-bus provided by the State Load Despatch Centre;	Schedule is generally given both in Capacity and in Energy terms.

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4	3.3. The SLDC shall make use of the flexibility provided by conventional Generating Units and the capacity of inter-Grid tie-lines to accommodate Wind and Solar energy generation to the largest extent possible subject to Grid security.	3.3. The SLDC shall make use of the flexibility provided by conventional Generating Units and the capacity of inter-Grid tie-lines to accommodate Wind and Solar energy generation to the largest extent possible in accordance with must run provision of the Grid Code subject to Grid security. 3.4. SLDC shall host real time generation data in their website to the effect that the Regulation 3.3 is strictly followed.	This is to ensure that must run provision is adhered to.
5	4.1 These Regulations shall apply to all Wind and Solar Energy Generators (excluding Rooftop PV Solar power projects) 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:	4.1 These Regulations shall apply to all Wind and Solar Energy Generators (excluding the WEGs connected to mixed feeders and Rooftop PV Solar power projects) 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:	Real time Generation Data in mixed feeders are not available as on date without which DSM Regulation cannot be enforced on such WEGs.
6	5.2. The Wind and Solar Energy Generators at each Pooling Sub-Station shall appoint a QCA:	5.2. The Wind and Solar Energy Generator(s) may appoint QCA(s) for one or more Pooling Sub-Station(s).	The SLDC is giving only one schedule for the wind power for the state to the RLDC. Hence, there should not be any restriction to appoint QCA. Regulation 5.2 recognises the QCA as State Entity and hence a QCA may

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			represent all the WEGs. More the area better will be the accuracy and lesser will be the Deviation Charges. WEGs/SGs shall be given the benefit of forecasting to a larger area.
7	5.6 b) De-pooling of amounts payable on behalf of the constituent Generator of the Pooling Sub-Station from the State Deviation Pool account and settling them with each Generator; c) Settlement of the Deviation Charges specified in these Regulations with the SLDC on behalf of the Generators.	5.6 b) De-pooling of deviations and deviation charges on behalf of the Constituent Generators of the Pooling Sub-Station(s) and communicating the same to the constituent Generators and the SLDC. c) Monthly settlement of the deviation charges specified in these regulations directly with the SLDC on behalf of the Generators or SLDC to provide such details of deviation charges to DISCOM for recovery.	It is better the collection of charges may be vested with SLDC / Utility which has established mechanism & more legal powers to take stringent action on the defaulting WEG/Solar Generators (SGs). <u>In case collection of deviation charges is done by the QCAs, QCAs shall be given appropriate powers to take necessary action on the defaulting WEGs / SGs. A suitable Regulation to that effect may be added which opening another route for collection besides a Successful one already available.</u>
8	5.9 The QCA shall provide real-time data relating to the power system output and parameters and weather-related data, as may be required, real-time to the SLDC.	5.9 The QCA shall provide real-time data relating to the power system output as from Special Energy Meters, as may be required, real time to the SLDC.	Weather related data to be deleted.
9	5.11 The QCA shall furnish to the SLDC the aggregated forecasts relating to its Wind and Solar Energy	5.11 The QCA shall furnish to the SLDC the aggregated forecasts of all pooling sub-station(s) for which he is appointed as	Pooling sub-stations added.

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	Generators connected to the intra-State Transmission network, with details of their Availability.	QCA, relating to its Wind and Solar Energy Generators connected to the intra-State Transmission network, with details of their Availability.	
10	5.12 The SLDC shall also undertake forecasting of the Wind and Solar energy generation expected to be injected into the intra-State Transmission network at each location, by engaging forecasting agencies if required, so as to enable it to better plan for the balancing resources required for secure Grid operation.	The SLDC shall also undertake forecasting of the Wind and Solar energy generation expected to be injected into the intra-State Transmission network at each location, by engaging forecasting agencies if required, so as to enable it to better plan for the balancing resources required for secure Grid operation. Commercial Arrangements specified in these Regulations, and the related provisions regarding Deviation Charges and penalty, shall come into force only after the commencement of independent forecasting by the SLDC.	Since the WEGs/QCAs have an option of accepting the SLDC forecasting as per draft regulation 5.15, enforcement part of this Regulation can be done only after SLDC start forecasting.
11	5.13 The QCA shall aggregate the Schedules of all Generators connected to a Pooling Sub-Station and communicate them to the SLDC.	5.13 The QCA shall aggregate the Schedules of all Generators connected to one or more Pooling Sub-Station (s) for which he is appointed as QCA and communicate them to the SLDC.	There should not be any bar to restrict a QCA to only one pooling substation as discussed hereinbefore. State level or centralized forecasting may be adopted to obtain better accuracy in Forecasting & Scheduling in the larger geographical area. The larger the forecasting area, lesser the deviation and hence the penalty payable by WEGs/SGs will be lesser.
12	5.17 The QCA shall provide to the SLDC a Day-Ahead and a Week-Ahead Schedule for each Pooling Sub-	5.17. The QCA shall provide to the SLDC a Day-Ahead and a Week-Ahead Schedule for each Pooling Sub-Station or	For the reasons cited in item 9.

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	Station or each stand-alone Generating Station, as the case may be, to enable it to assess the Availability of energy and the margin available in the State Grid.	Aggregate Schedule for all the Pooling Sub stations for which he is responsible or each stand-alone Generating Station, as the case may be, to enable it to assess the Availability of energy and the margin available in the State Grid.	
13	5.20 Wind energy generators shall provide time block wise banked energy withdrawal schedule and allocations to captive users on weekly basis. The schedule for the first week at the start of the billing cycle shall be provided seven days before the commencement of the billing cycle.	May be deleted.	The forecasting and scheduling regulations deal with real time generation and monitoring and consumption of banked energy is not relevant to the proposed regulations and hence, suggest the same be deleted.
14	5.21 The plan for data telemetry, formats of forecast submission and other modalities and requirements shall be stipulated in the Detailed Procedure to be submitted by the SLDC within two months, which the Commission shall endeavour to approve within a month thereafter	5.21 The plan for data telemetry, formats of forecast submission and other modalities and requirements shall be stipulated in the Detailed Procedure to be submitted by the SLDC within two months.. The Commission shall provide minimum of 2 weeks' time to the stakeholders for their comments on the detailed procedure and the Commission shall approve within a month thereafter.	This procedure is considered to be part of this Regulation affecting all the stakeholders and hence it is imperative to obtain the comments /suggestions from the stake holders.
15	5.23 The commercial impact of deviations from Schedules based on the forecasts shall be borne by the Generators through their QCAs.	5.23 The commercial impact of deviations from Schedules based on the forecasts shall be borne by the Generators through their QCAs directly or collect through	

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		DISCOMS based on depooling statements prepared. by QCA.	
16	6.2. The QCA shall be appointed with the approval of at least 51% of the Generators at a Pooling Sub-Station, in terms of their combined installed capacity. Provided that QCA may undertake forecasting and scheduling at feeder level;	6.2. The QCA shall be appointed with the approval of at least 51% of the Generators at one or more Pooling Sub-Stations , in terms of their combined installed capacity connected to the intra-State transmission network at the State level. Once appointed under majority, all the WEGs/SGs shall approve him as the QCA for their pooling station / specific area. The QCA shall be paid by the generators for providing the services as envisaged in their Agreements.	The regulation should provide for dealing with the WEGs of those who are not consenting to appointment of QCA for a Pooling SS when more than 51% have consented to appoint a QCA. This is to avoid any possible problems from being created by a few, when majority has agreed to the appointment. Feeder level forecasting is not required.
17	7.2 (ii) Addition	7.2 (ii) The SLDC to take in to account exceptional case of unforeseen conditions like break down of local transmission lines, faults of Tantransco etc while calculating the DSM penalties	
18	7.2 In respect of sale or self-consumption of power within Tamil Nadu, if the actual injected generation of a stand-alone Generator or the aggregate of such generation at a Pooling Sub-Station, as the case may be, differs from the scheduled generation, the Deviation Charge for the excess or shortfall shall be payable	7.2 In respect of sale or self-consumption of power within Tamil Nadu, if the actual injected generation of a stand-alone Generator or the aggregate of such generation at one or more Pooling Sub-Station(s) to which schedules are given, as the case may be, differs from the scheduled generation, the Deviation Charge for the excess or shortfall shall be	

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	by the QCA to the State Deviation Pool Account, through the SLDC, as specified in Table 1 below:	payable by the QCA to the State Deviation Pool Account, through the SLDC, as specified in Table 1 below:																					
19	<div>7.2 Table A<table><tr><th>Absolute Error in % terms in 15-minute time block</th><th>Deviation Charge payable to State DSM Pool</th></tr><tr><td>< = 10%</td><td>None</td></tr><tr><td>>10% but <=20%</td><td>At Rs. 0.50 per unit</td></tr><tr><td>>20% but <=30%</td><td>At Rs. 0.50 per unit for the shortfall or excess beyond 10% and upto 20% + Rs. 1.00 per unit for the balance energy beyond 20% and upto 30%</td></tr><tr><td>>30%</td><td>At Rs. 0.50 per unit for the shortfall or excess beyond 10% and upto 20% + Rs. 1.00 per unit for the shortfall or excess beyond 20% and up to 30% + Rs. 1.50 per unit for the balance energy beyond 30%</td></tr></table></div>	Absolute Error in % terms in 15-minute time block	Deviation Charge payable to State DSM Pool	< = 10%	None	>10% but <=20%	At Rs. 0.50 per unit	>20% but <=30%	At Rs. 0.50 per unit for the shortfall or excess beyond 10% and upto 20% + Rs. 1.00 per unit for the balance energy beyond 20% and upto 30%	>30%	At Rs. 0.50 per unit for the shortfall or excess beyond 10% and upto 20% + Rs. 1.00 per unit for the shortfall or excess beyond 20% and up to 30% + Rs. 1.50 per unit for the balance energy beyond 30%	<div>7.2 Table A<table><tr><th>Absolute Error in % terms in 15-minute time block</th><th>Deviation Charge payable to State DSM Pool</th></tr><tr><td>< = 15%</td><td>None</td></tr><tr><td>>15% but <=25%</td><td>At Rs. 0.10 per unit for the shortfall or excess beyond 15% and upto 25%</td></tr><tr><td>>25% but <=35%</td><td>At Rs. 0.10 per unit for the shortfall or excess beyond 15% and upto 25% + Rs. 0.25 per unit for the balance energy beyond 25% and upto 35%</td></tr><tr><td>>35%</td><td>At Rs. 0.10 per unit for the shortfall or excess beyond 15% and upto 25% + Rs. 0.25 per unit for the shortfall or excess beyond 25% and up to 35% + Rs. 0.50 per unit for the balance energy beyond 35%</td></tr></table></div>	Absolute Error in % terms in 15-minute time block	Deviation Charge payable to State DSM Pool	< = 15%	None	>15% but <=25%	At Rs. 0.10 per unit for the shortfall or excess beyond 15% and upto 25%	>25% but <=35%	At Rs. 0.10 per unit for the shortfall or excess beyond 15% and upto 25% + Rs. 0.25 per unit for the balance energy beyond 25% and upto 35%	>35%	At Rs. 0.10 per unit for the shortfall or excess beyond 15% and upto 25% + Rs. 0.25 per unit for the shortfall or excess beyond 25% and up to 35% + Rs. 0.50 per unit for the balance energy beyond 35%	KERC, APERC and FoR (for existing WEGs) have adopted the error percentage in the terms of < = 15%, >15% but <=25%, >25% but <=35% and >35%. The Regulation may be corrected accordingly. Interest rates falling and energy tariffs are falling, so should be the penalties.
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20	7.3. The SLDC and the QCA shall maintain records and accounts of the time block wise schedules, the actual generation injected and the deviations, for the Pooling Sub Station and the	7.3. The SLDC and the QCA shall maintain records and accounts of the time block wise schedules, the actual generation injected and the deviations, for the Pooling Sub Station(s) to which QCA is scheduling																					

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	individual generators separately.	and the individual generators separately.	
21	7.4 The QCA shall undertake depooling of energy deviations and the deviation charges against each generator at the pooling substation as specified in Regulation 16.	7.4 The QCA shall undertake depooling of energy deviations and the deviation charges against each generator at one or more pooling substation(s) for which QCA is scheduling as specified in Regulation 16.	
22	7.5 The QCA shall undertake the settlement of Deviation Charges with the SLDC on behalf of the concerned Generators.	7.5 The QCA shall undertake the settlement of Deviation Charges with the SLDC on behalf of the concerned Generators either directly or can provide the list of deviation charges payable by Generators for recovery of such charges through Monthly billing of DISCOM.	
23	8.4 The SLDC shall prepare the deviation settlement account for such Generator on the basis of measurement of the deviation in the energy injected and its impact at the State periphery. Excess injection over the schedule shall not be accounted for.	The SLDC shall prepare the deviation settlement account for such Generator on the basis of measurement of the deviation in the energy injected and its impact at the State periphery.	The Table A of the Annexure gives deviation charges only for the under injection. This draft Regulation will be an incomplete one if the Deviation charges are not provided to excess injection also. This Regulation shall provide deviation charges for excess injection and the excess generation shall also be accounted for.
24	8.6 The Deviation Charges for under-injection by Generators connected to the Intra-State Transmission Network and selling or consuming power outside Tamil Nadu shall be as specified in the Annexure to these Regulations, the accounting for which shall be done by the SLDC.	8.6 The Deviation Charges for under-injection by Generators connected to the Intra-State Transmission Network and selling or consuming power outside Tamil Nadu shall be as specified in Table A under Regulation 7.2 of this Regulation, the accounting for which shall be done by the SLDC.	SLDC is giving only one schedule to RLDC for all WEGs in Tamil Nadu. Hence, there cannot be discrimination between intra and interstate transactions of WEGs. The deviation charges of intra state transactions may be made applicable to interstate also to the extent it is covered by this Regulation.

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25	<p>13.1 The QCA shall pay the amount of Deviation Charges to the SLDC, and collect it from the concerned Generators in proportion to their actual generation:</p> <p>Provided that the onus of ensuring the payment of the Deviation Charges to the SLDC by the QCA shall remain that of the concerned Generators.</p>	<p>13.1 The QCA shall give the de-pooling details both to the WEGs and the SLDC. SLDC shall bill WEGs directly for the deviation charges or can provide the list of deviation charges payable for recovery of such charges through DISCOM.</p>	<p>It is better the collection of charges may be left to SLDC/Discom which has more legal powers to take stringent action on the defaulting WEG/Solar Generators (SGs).</p>
26	<p>13.2 The Deviation Charges shall be paid within ten days from the issue of the accounts and billing by the SLDC, failing which a late payment surcharge amounting to 1.25% per month shall be levied for the period of delay.</p>	<p>13.2 The Deviation Charges shall be paid within ten days from the issue of the accounts and billing by the SLDC, failing which a late payment surcharge amounting to 0.50 % per month shall be levied for the period of delay.</p>	<p>0.50 % per month is the rate followed by TANGEDCO on security deposit & also allowed by the Judicial Forums.</p>
27	<p>14. De-Pooling of Deviation Charges</p> <p>The QCA shall de-pool the energy deviations and the Deviation Charges against each Generator in proportion to its actual generation or in proportion to Available Capacity, as may be mutually agreed between QCA and the Generators.</p>	<p>14. De-Pooling of Deviation Charges</p> <p>The QCA shall de-pool the energy deviations and the Deviation Charges against each Generator in proportion to its actual generation or in proportion to Available Capacity as may be mutually agreed between QCA and the Generators.</p>	
28	<p>15.1 Any curtailment imposed on the energy injection for reliable and secure Grid operation in emergent situations shall be communicated by the SLDC to the QCA through an IT-enabled communication, and no Deviation Charges shall be payable for any</p>	<p>15.1 Any curtailment imposed on the energy injection for reliable and secure Grid operation in emergent situations shall be communicated by the SLDC to the QCA through an IT-enabled communication, and no Deviation Charges shall be payable for any such consequent deviations if the</p>	

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	consequent deviations if the SLDC fails to do so.	SLDC fails to do so.	
29	15.3 Addition	<p>15.3 In case, after providing the schedule, WEGs are curtailed from the grid by SLDC, then the generators shall be compensated for the loss in generation based on the schedule given by QCA at applicable tariff for each generator. Curtailment will be considered for maintaining grid security reasons only if all the points are satisfied:</p> <ul style="list-style-type: none"> A) The frequency bandwidth and or the deviation limit as stipulated by CERC has been breached and B) All other sources of power have been curtailed/ramped down to technical minimum to maintain the grid security and C) SLDC has considered the entire wind schedule (both day ahead and revisions) in their daily schedule and other sources are planned after considering the wind schedule 	

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30	16.2 The SLDC shall furnish the processed data on a weekly basis by Thursday mid-night for the seven-day period ending on the previous Sunday to the concerned QCA in the prescribed format, for the preparation of weekly Energy Accounts of energy from the Pooling Sub-station or the stand-alone Generator, as the case may be.	16.2: The SLDC shall furnish the processed data on a monthly basis by 25 th day of mid-night of every month for the period ending on the 20 th day of that month to the concerned QCA in the prescribed format, for the preparation of monthly Energy Accounts of energy from the Pooling Sub-stations or the stand-alone Generator, as the case may be.	Monthly maintenance of data and accounts.
31	Annexure 1 a) The 'fixed rate' referred to in Table A shall be the Average Power Purchase Cost (APPC) rate at national level, as determined by the Central Commission from time to time.	May be deleted	APPC is many times more than the deviation rates adopted in regulation 7.2 for the intra state transactions. Discriminating the WEGs who are doing interstate transactions is unjustifiable. Deviation charges as applicable to intrastate transactions as specified in Table A of Regulation 7.2 may be adopted.
32	Annexure 1 b) No Deviation charges shall be paid for excess generation above the scheduled generation to Solar or Wind energy generators.	May be deleted. (It should have been "No deviation charges shall be paid for excess generation above the scheduled generation to Solar or Wind energy generators." However, the entire sub Regulation may be deleted.	In as much as they are paying deviation charge, it is not justifiable to reject the excess generation. It should be duly accounted for.
33	Addition of new clause .	(i) 3.3 "Grid Security" Need for grid curtailment of RE for grid security reasons means when Frequency is unable to be maintained within the band width specified by the grid code and all	New Clause may be introduced so as to avoid unnecessary back down of WEGs by the SLDC in the name of "Grid Security"

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		balancing opportunities by using other sources of generation are exhausted,. Provided SLDC is deviating from its schedule now permissible beyond 250 MW. If SLDC curtails grid for RE other than the above quoted reasons SLDC shall compensate the Wind or RE generator.	