



ORIENT GREEN POWER COMPANY LIMITED

OGPL/CERC/PN-1/2015

29.04.2015.

The Secretary
Central Electricity Regulatory Commission
3rd & 4th Floor, Chandralok Building
36, Janpath
New Delhi 110 001.

Dear M'am

Sub: Proposed Framework on "Forecasting, Scheduling & Imbalance Handling for RE
Generating Stations based on wind and solar at Inter-State Level" – Comments – Reg.

Ref: CERC Public Notice No.1/14/2015-Reg.Aff. dated 31.03.2015.

We, Orient Green Power Company Limited, engaged in the business of Renewable Energy, would like to submit our views/comments on the "Forecasting, Scheduling & Imbalance Handling for Renewable Energy Generating Stations based on wind and solar at Inter-State Level" as invited by Hon'ble CERC in the above referred Public Notice.

Wind Energy is restricted only to 7 States in India. The Government of India has rolled out an ambitious plan to expand wind installations and has set a target of 60000 MW by 2022 and such large scale capacity installations can happen only in these 7 States. As penetration of wind increases in these 7 States, the need to manage intermittency and variability of wind will also increase. Considering the present penetration level in Tamil Nadu, Gujarat, etc., and the long term capacity addition plans, OGPL recognizes the need for forecasting and scheduling of wind power and would assure that OGPL would extend its full cooperation in doing this.

In this context, it would be of importance to mention about the workshop conducted by GIZ, a German Agency in New Delhi on 22nd and 23rd April 2015 and they shared their experience about REMC.

- The forecasting and scheduling is handled at the central level for entire wind installations and not for each wind farm separately.
- Variation implication is always borne by the Utility or by market developer.

Hence, OGPL submits that the forecasting and scheduling be done by RLDCs for all wind installations irrespective of the aging for all states in the region, with separate schedule for each state to be provided to the SLDC of the host state. The host state shall be allowed to draw power based on this schedule in full and any variation in the schedule be handled at the regional level by RLDCs and the costs, if any,

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incurred to manage the variation may be socialized through a mechanism akin to the RRF mechanism introduced earlier.

The present draft does not include intrastate transactions of wind energy. Considering that a vast majority of transactions are only intrastate and there are hardly any inter-state transactions, OGPL submits that the intraday wind energy is also brought under the ambit of the regulations through appropriate amendment.

The wind energy generators in Tamil Nadu, having a capacity of about 7300 MW, are already suffering because of rampant backing down of WEGs and one of the reasons, we reliably understand, is the limitation in deviation of 150 MW for each time block. The precious natural energy could not be harnessed in full and the wind energy generators had been severely affected. Hence, we submit that CERC, the apex regulator, to kindly consider our submissions for a centralized forecasting at the RLDC level based on which host States be eligible to draw the power. Wider the geographical area and larger the installed capacity, the forecasting accuracy would also improve and reduce the variation from schedule, thus meeting the twin objective of harnessing the green energy in full as provided for in the Electricity Act and also maintain the grid stability.

The present regulations of CERC require the host States to manage the variation and at times, this 150 MW may not be adequate and hence OGPL submits that the 150 MW limit be allocable only for conventional sources and other firm sources of power and wind be excluded for this purposes. This could be done by taking the wind as a separate control area by RLDC, who has forecast and schedule the wind power at the centralized level, for each host State separately, who will accordingly plan for other sources. The host States, presently, do not want to deviate the schedule for the fear of having to bear the financial consequences and resort to backing down. The objective of adding capacity is to generate renewable power and if after installing the WEGs they are not allowed to run, it would not serve the intended purpose. It would be contrary to the provisions of the Electricity Act which requires promotion of renewable power.

Considering this, we have already engaged with NIWE and TANGEDCO for initiating the State level forecasting and scheduling for wind power in Tamil Nadu and the preliminary work for this has already begun and OGPL is endeavoring to start this in the coming wind season. This exercise, when it goes through one year of pilot would provide valuable insights into the entire forecasting and scheduling of wind power at a centralized level for Indian conditions.

We would be willing to bear the costs incurred for forecasting and scheduling and to contribute to the facilities for Forecasting and Scheduling of wind energy by RLDC, RLDC shall forecast and schedule the wind power for the host States, who shall draw as per the schedule and the cost of variation if any be socialized so the host States are not financially impacted which would help them to encourage



renewables. This would be in consonance with the various Policy initiatives, provisions of the Electricity Act and Regulations which encourage Renewable Energy on the whole and wind energy in particular.

Without prejudice to our earlier submissions, OGPL would like to submit that the $\pm 12\%$ variation proposed at the Sub-Station under Inter-State level, in the absence of any specific experiment appears to be stringent, arbitrary and without any basis. It needs to be analysed in detail at Regional level before the variation limit is set. The experience of forecasting over last 2 years has not seen such accuracy. The accuracy itself varies during the peak wind season and the non wind season and hence we suggest that the accuracy band width be defined differently for peak and lean seasons. The regulations should have a clause to protect the generators when the WEGs are backed down forcibly by the State utility and as a result there is a variation in the schedule vs actual.

With a view to give the SLDC better visibility of wind power, OGPL through IWPA is willing to contribute for initiating Forecasting and Scheduling of wind energy by NIWE at the State level. They are willing to provide the required data and connectivity on real time basis which shall encourage Forecasting and Scheduling in a proper manner which would eventually make the road for maximum evacuation of wind energy.

Further, the REMCs are one of the most important entities for successful implementation of the framework. Any commercial implication is dependent on their forecast quality and accuracy. REMCs shall be handling real time information from numerous projects within their geographical boundary which is critical to accurate forecasts. According to industry estimates, to make the REMCs fully functional, it shall take atleast 24-30 months, given the requirement of infrastructure building via a bidding process and training of human resources. Thus REMCs must be operationalised with the necessary infrastructure and human capabilities before any such framework is initiated with commercial implications.

As mentioned above, a mock exercise with compulsory participation of all generators must be conducted for one full year. In case of non-participation, huge penalties may be imposed on the defaulting parties. This shall help as a learning curve and experiences gained during such period may be incorporated in the final framework which shall have commercial settlement.

We emphasize that the socialisation costs are important from the perspective of a balanced approach where no single party is over-burdened. The Hon'ble Central Commission must initiate a study while the REMCs and the other requirements are being put in place to understand socialisation impact. The scope of the study can take into account under different scenarios the proposed capacity addition programs. In our view the overall marginal cost of socialisation with growing integration of renewables will be miniscule and in such a scenario focus must not be on commercial impact of such imbalances but on improving the grid integration.



The above recommended mechanism takes a holistic view and addresses the concerns of all the market participants and at the same time minimizing the commercial impact on any single generator or any single State. It is important that this is a very critical juncture for development of renewable energy in the country. Any mechanism which hampers the growth of the sector will create a barrier for achieving the aggressive targets set by the Government of India. The renewable energy sector globally is looking at India with expectations and we have to promote the sector with an enabling framework. Thus it is requested that the Hon'ble Commission considers our humble submissions before finalising the provisions of the same.

We request the Hon'ble CERC to kindly come out with a Regulation for intra-state Forecasting and Scheduling of wind energy under the control of RLDC.

We enclose our views/comments on the draft amendments proposed for Forecasting, Scheduling & Imbalance Handling for Renewable Energy Generating Stations based on wind at Inter-State Level.

We request CERC to kindly consider our above submissions and the attached comments.

Thanking you

Yours faithfully

For ORIENT GREEN POWER COMPANY LIMITED

AUTHORISED SIGNATORY.

Encl: as above.

OGPL's suggestions / comments on CERC's Framework on Forecasting, Scheduling & Imbalance handling for Renewable Energy Generating Stations		
Clause No.	Description of Existing Clause	Suggestions / Comments
	In view of the aforesaid methodology, amendments have been proposed to the following regulations, via:- i. IEGC Regulations, 2010; ii. DSM Regulations, 2014 and iii. REC Regulations, 2010	
IEGC (Indian Electricity Grid Code)	<p>1. Short title and commencement - (1) These regulations shall be called the Central Electricity Regulatory Commission (Indian Electricity Grid Code) (Third Amendment) Regulations, 2015, (2) These regulations shall come into force with effect from the date of their publication in the Official Gazette.</p> <p>2. Amendment of Regulation 1 of Part 1 of Principal Regulations: Sub Regulation (v) under Regulation 1.4 of the Principal Regulations, shall be substituted as under:- "Part 6: Scheduling and Despatch Code: This section deals with the procedure to be adopted for scheduling and Despatch of generation of the Inter-State Generating Stations (ISGS) and scheduling for other transactions through long-term access, medium-term and short-term open access including complementary commercial mechanisms, on a day-ahead and intra-day basis with the process of the flow of information between the ISGS, National Load Despatch Centre (NLDC), Regional Load Despatch Centre (RLDC), Power Exchanges and the State Load Despatch Centres (SLDCs), and other concerned persons. Most of the wind and solar energy generators are presently connected to intra-State network and in future are likely to be connected to the inter-state transmission system (ISTS) as well. Keeping in view the variable nature of generation from such sources and the effect such variability has on the interstate grid, and in view of the large-scale integration of such sources into the grid envisaged in view of the Government of India's thrust on renewable sources of energy, scheduling of wind and solar energy generators covered under</p>	<p>As on date more than 90% of the wind installations are on either PPA with the local Discom or for captive/OA purposes and there are very few inter-state transactions in wind power. It is therefore humbly suggested that intra-state transactions are also included in this regulations so the real intent of introducing this regulations would be best served. Given that only 7 states are blessed with good or reasonable wind potential. It becomes necessary to keep expanding within these seven states to achieve the targets set by GOI. This would essentially mean that more and more penetration of wind would happen only in these 7 states and consequently these 7 states would become susceptible for intermittency and variability in generation. In such</p> <p>It is not clear whether these regulations would be applicable for intra-state transactions as the wordings are not clearly bringing out the applicability. All wind installations in the State be brought under the RLDC of the respective region as a separate control area with energy generated from wind installations in each be drawn only by the respective host states. RLDC shall be vested with the responsibility of scheduling wind power comprising all the states under its control with a view to have a larger geographical area as also higher installed capacity of other sources of generation in that area. The host State shall be entitled to draw power as per the schedule provided by RLDC for wind installations and any variation in generation from schedule shall not be put to any difficulty in</p>
		Reasons for the suggestions / comments given

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	the control area of RLDCs, has been incorporated in this code."	<p>managing the variability in Wind generation.</p> <p>Hence, OGPL suggests that the regulation 6.4(2) of part 6 of principal regulations be amended as follows to include wind generating stations connected only to the state transmission network also to come under the scheduling ambit of RLDC</p> <p>A new clause to be inserted as follows:</p> <p>RLDC shall schedule the generation for all wind energy generating stations connected to the state transmission network or to the ISTS, providing schedule for each host state separately.</p>	<p>a situation, the present deviation limit of 150 MW would be difficult to comply with by the Wind rich states and would be financially penalized for encouraging renewables. This is contrary to the provisions of the Electricity Act which mandates promotion of renewables and the Government initiative which is giving a big thrust by a manifold increase of capacity addition targets of renewables. Hence OGPL suggestion is to create separate control area for wind in each RLDC comprising wind installation in the states in its region, schedule wind power for all states based on which states be allowed to schedule their power without considering the variability so states do not suffer managing the wind variability. At a regional level, when scheduling is done, better accuracy is possible as there could be compensating variation between substations minimizing the variation at the regional level. In Germany, for instance, the forecasting and scheduling is done only at the central level and the wind generators are not forecasting and scheduling the power. It may be mentioned that the FIT just provides reasonable returns to the investor and if a generator has to take this risk of cost of variability ,</p>

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	<p>3. Amendment of Regulation 2 (Definitions) of Principal Regulations: Sub-Regulation (eee) of Regulation 2 of the Principal Regulations, shall be substituted as under:- (eee) "Pool Account" means regional account for (i) payments regarding Deviation Charges (Deviation Charge Account) or (ii) reactive energy exchanges (Reactive Energy Account) (iii) Congestion Charge, as the case may be;</p> <p>4. Amendment of Regulation 2 of Part 2 of Principal Regulations: Regulation 2.4.5 of the Principal Regulations, shall be substituted as under "2.4.5 RPC Secretariat or any other person as notified by the Commission from time to time, shall prepare monthly Regional Energy Account (REA), weekly deviation charge account, reactive energy account, and congestion charge account, based on data provided by RLDC, and deviation charge account for wind and solar energy generators whose scheduling is done by the RLDCs, based on data provided by SLDC/RLDC of the State/Region in which such generators are located and any other charges specified by the Commission for the purpose of billing and payments of various charges."</p>		<p>it would have an adverse impact. OGPL is already working with NIWE to initiate state wide forecasting for TN and has agreed to sponsor the project by offering to financially support for creation of all infrastructure – hardware, software, communication devices etc., and is seriously committed to the forecasting and scheduling exercise.</p>
			<p>OGPL submits, based on international experience, is to do a forecasting at the regional level where the accuracy would be better than that in individual pooling station. And hence the variation is likely to be within the acceptable deviation limits. The cost of such variations, OGPL suggests, be socialized amongst the states as was done earlier as per the RRF mechanism it would be pertinent to point out that depooling of the financial implication could be a challenge.</p>

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	<p>5. Amendment of Regulation 5.5 of Part 5 of Principal Regulations: Regulation 5.5.1 (b) of the Principal Regulations, shall be substituted as under :- "A daily report covering the performance of the regional grid shall be prepared by each RLDC based on the inputs received from SLDCs / Users and shall be put on its website. This report shall also cover the wind and solar power generation and injection into the grid."</p> <p>6. Amendment of Regulation 6.2 of Part 6 of Principal Regulations: In Regulation 6.2 of the Principal Regulations, the words "This code also provides the methodology for re-scheduling of wind and solar energy on three (3) hourly basis and the methodology of compensating the wind and solar energy rich State for dealing with the variable generation through a Renewable Regulatory charge. For this, appropriate meters and Data Acquisition System facility shall be provided for accounting of UI charges and transfer of information to concerned SLDC and RLDC." shall be substituted by the words "This code also provides the methodology for rescheduling of wind and solar energy generators whose scheduling is done by the RLDCs, on one and half hourly basis and the methodology of handling deviations of these wind and solar energy generators. For this, appropriate meters and Data Acquisition System facility shall be provided for accounting of DSM charges and transfer of information to the concerned SLDC and RLDC."</p> <p>7. Amendment of Regulation 6.4(2) of Part 6 of Principal Regulations: Regulation 6.4(2)(b) of the Principal Regulations shall be substituted as under:- "(b) Ultra Mega Power Projects including projects based on wind and solar resources and having capacity of 500 MW and above"</p>	<p>The Amendment proposing to replace renewable regulatory charge with the words "deviation charges account for wind and solar energy generators" need not be done.</p> <p>OGPL suggests the following amendments:</p> <p>"This code also provides the methodology for re-scheduling of wind and solar energy on One (1) hourly basis and the methodology of compensating the wind and solar energy rich State for dealing with the variable generation through a Renewable Regulatory charge. For this, appropriate meters and Data Acquisition System facility shall be provided for accounting of UI charges and transfer of information to concerned SLDC and RLDC."</p> <p>No comments</p>	<p>OGPL suggest a shorter gate closure time to make forecast and scheduling more accurate and reliable. However, the proposed amendment to include the word "Generators" is not required when a regional level scheduling is done.</p>

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	<p>8. Amendment of Regulation 6.5 of Part 6 of Principal Regulations: Regulation 6.5 (23) of the Principal Regulations, shall be substituted as under :-</p> <p>(i) RE generation is uncertain and variable but uncertainty and variability can and should be minimized to the extent possible through proper forecasting. Accuracy of forecasts can be increased inter alia by maximizing geographic diversity in RE generation as the errors in forecasts tend to offset each other, the larger the number of generators covered and broader the area included in the forecasts. In order to maximize the accuracy of forecasts, meteorological models must incorporate data about maximum possible RE generators in as high a resolution (spatial and temporal) as possible – e.g., wind turbine technical specifications, equipment failure, weather data (wind speed, temperature, pressure), etc. This data should be provided on a mandatory basis by the wind and solar generators to the concerned RLDC.</p>	<p>OGPL concurs this view of broad basing the geographical area and the aggregate installed capacity for undertaking this forecasting and scheduling and hence has suggested that RLDC be entrusted with the responsibility of forecasting and scheduling. Some of the old WEGs, particularly in Tamil Nadu and Gujarat do not have the modern communication and SCADA connectivity and hence it may not be possible to provide the data relating to wind speed etc., for all machines and hence has suitably suggested changes in the proposed amendment.</p>
		<p>Suggestions / Comments</p> <p>OGPL proposes the following amendments:</p> <p>i) RE generation is uncertain and variable but uncertainty and variability can and should be minimized to the extent possible through proper forecasting. Accuracy of forecasts can be increased inter alia by maximizing geographic diversity in RE generation as the errors in forecasts tend to offset each other, the larger the number of generators covered and broader the area included in the forecasts. In order to maximize the accuracy of forecasts, meteorological models must incorporate data about maximum possible RE generators in as high a resolution (spatial and temporal) as possible – e.g., wind turbine technical specifications, equipment failure, weather data (wind speed, temperature, pressure), etc. Data relating to wind turbine technical specifications and equipment failure should be provided on a mandatory basis by the wind and solar generators to the concerned RLDC.</p> <p>Wherever SCADA is available data relating to Weather (Wind speed, temperature, pressure) should be provided.</p>

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	<p>(ii) Forecasting would be done by the wind and solar generators as well as the concerned RLDC. The forecast by the concerned RLDC would be with the objective of secure grid operation. The forecast by the wind and solar generator would be wind-farm/solar facility centric and would form the basis of scheduling. The wind and solar generator will have the option of accepting the concerned RLDC's forecast for preparing its schedule or provide the concerned RLDC with a schedule. The concerned RLDCs may engage forecasting agency(ies) at the centralized level and prepare a schedule of inter-State renewable generating stations. Any commercial impact on account of scheduling based on the forecast would, however, be borne by the wind and solar energy generator.</p>	<p>ii) Forecasting would be done by the concerned RLDC. The forecast by the concerned RLDC would be with the objective of secure grid operation and would form the basis of scheduling. The concerned RLDCs should engage forecasting agency(ies) at the centralized level and prepare a schedule of all Wind Energy generating stations in the region.. The costs incurred for undertaking the forecasting and scheduling based on the forecast would, however, be borne by the wind and solar energy generator.</p>	<p>As has been mentioned in the earlier para, in view of OGPL's suggestion to make the forecasting and scheduling by RLDC, the proposed amendment requiring wind energy generators to forecast and schedule is sought to be removed.</p>
	<p>(iii) The schedule by wind and solar power generating stations whose scheduling is done by the RLDCs (excluding collective transactions) may be revised by giving advance notice to the concerned RLDC, as the case may be. Such revisions by wind and solar energy generating stations shall be effective from 4th time block, the first being the time-block in which notice was given. There may be one revision for each time slot of one and half hours starting from 00:00 hours of a particular day subject to maximum of 16 revisions during the day.</p>	<p>The schedule by wind and solar power generating stations whose scheduling is done by the RLDCs (excluding collective transactions) may be revised by RLDC giving advance notice to the concerned SLDC/RLDC, as the case may be. Such revisions by RLDC shall be effective from 3rd time block, the first being the time-block in which notice was given. There may be one revision for each time slot of one hour starting from 00:00 hours of a particular day subject to maximum of 24 revisions during the day.</p>	<p>As OGPL suggest that the forecasting and scheduling wind power by RLDC the wordings relating to individual wind energy generators are sort to be removed. OGPL suggest that the number of revisions be kept at 24, to make this exercise more reliable</p>

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	<p>(iv) The schedule of solar generation whose scheduling is done by the RLDCs, shall be given by the generator based on availability of the generator, weather forecasting, solar insolation, season and normal solar generation curve."</p> <p>9. Amendment of Annexure-1 of Principal Regulations: Regulation 4 of the Annexure-1 of the Principal Regulations, shall be substituted as under :- "The wind and solar energy generators whose scheduling is done by the RLDCs, shall forecast renewable energy generation at the following time intervals:</p>	<p>As explained above, OGPL suggests that the forecasting and scheduling be carried out at the central level by RLDC and hence has proposed suitable changes.</p>
	<p>(i) Day ahead forecast: Wind and solar energy generation forecast with an interval of 15 minutes for the next 24 hours for the aggregate Generation capacity of 50 MW and above.</p>	<p>OGPL suggests that the scheduling be considered for the entire installed capacity of WEGs.</p>
	<p>(ii) The schedule by such wind and solar energy generating stations whose scheduling is done by the RLDCs, and supplying inter-state power under long-term access and medium-term and short-term open access may be revised by giving advance notice to RLDC. Such revisions by wind and solar energy generating stations shall be effective from 4th time-block, the first being the time-block in which notice was given. There may be maximum of 16 revisions for each one and half hour time slot starting from 00:00 hours during the day."</p>	<p>OGPL submits that a shorter gate closure period would improve accuracy and would be more reliable for planning purposes.</p>
	<p>9. Amendment of Annexure-1 of Principal Regulations: Regulation 4 of the Annexure-1 of the Principal Regulations, shall be substituted as under :- "RLDC shall forecast and schedule wind and solar energy , at the following time intervals</p>	<p>The schedule of solar generation whose scheduling is done by the RLDCs, shall be given based on the availability of the generator, weather forecasting, solar insolation, season and normal solar generation curve."</p>
	<p>Day ahead forecast: Wind and solar energy generation forecast with an interval of 15 minutes for the next 24 hours for the aggregate Generation capacity of all WEGs in all the states in the region.</p>	<p>The schedule by such wind and solar energy generating stations whose scheduling is done by the RLDCs, and supplying inter-state/intra state power under long-term access and medium-term and short-term open access may be revised by giving advance notice by the respective RLDC to concerned SLDC/ RLDC. Such revisions by wind and solar energy generating stations shall be effective from 3rd time-block, the first being the time-block in which</p>

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	<p>10. Amendment of Annexure-1 of Principal Regulations: Para 5 of the Annexure-1 of the Principal Regulations, shall be substituted as under :- "The charges payable for deviation form schedule for the wind and solar energy generators whose scheduling is done by the RLDCs, shall be delinked form frequency and shall be accounted for and settled in accordance with the provisions of the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations as amended from time to time."</p>	<p>notice was given. There may be maximum of 24 revisions for each one hour time slot starting from 00:00 hours during the day."</p> <p>RLDC shall be responsible for forecasting and scheduling the wind and solar power and provide the schedule of wind and solar power to the host states within the region. Host states shall draw power as per the schedule and shall not be subjected to any deviation charges for variation in generation. Deviation charges, if any, shall be shared among all the States of the country in the ratio of their peak demands in the previous month based on the data published by CEA, in the form of a regulatory charge known as the Renewable Regulatory Charge operated through the Renewable Regulatory Fund (RRF).</p>
	<p>11. Amendment of Annexure-1 of Principal Regulations: Paras 6, 7 and 9 of the Annexure-1 of the Principal Regulations, shall be deleted.</p>	<p>No comments</p>
Deviation Settlement Mechanism and related matters	<p>Short title and commencement - (1) These regulations shall be called the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) (Second Amendment) Regulations, 2015, (2) These regulations shall come into force with effect from the date of their publication in the Official Gazette.</p>	

OGPL's suggestions / comments on CERC's Framework on Forecasting, Scheduling & Imbalance handling for Renewable Energy Generating Stations		
Clause No.	Description of Existing Clause	Reasons for the suggestions / comments given
	<p>1. Amendment of Regulation 5 of Principal Regulations: In clause (1) of Regulation 5 of the Principal Regulations, the words "and over-injection by the seller and shall be worked out on the average frequency of a time-block at the rates specified in the table below as per the methodology specified in clause (2) of this regulation" shall be substituted by the words "and over injection by the seller, except for the wind and solar energy generators whose scheduling is done by the RLDCs, and shall be worked out on the average frequency of a time-block at the rates specified in the table below as per the methodology specified in clause (2) of this regulation".</p> <p>3. Amendment of Regulation 5 of Principal Regulations: Sub-clause (iv) to clause (1) of Regulation 5 of the Principal Regulations, shall be substituted as under "the charges for the Deviation for the over-injection by the seller in a time block in excess of 12% of the schedule or 150 MW, whichever is less, shall be zero, except in case of injection of infirm power, which shall be governed by the clause (5) of this Regulation and except for wind and solar energy generators whose scheduling is done by RLDCs, which shall be governed by sub-clauses (v) to (vii) below:</p>	<p>In clause (1) of Regulation 5 of the Principal Regulations, the words "and over-injection by the seller and shall be worked out on the average frequency of a time-block at the rates specified in the table below as per the methodology specified in clause (2) of this regulation" shall be substituted by the words "and over injection by the seller, except for the wind and solar energy generating stations whose scheduling is done by the RLDCs, and shall be worked out on the average frequency of a time-block at the rates specified in the table below as per the methodology specified in clause (2) of this regulation".</p> <p>Sub-clause (iv) to clause (1) of Regulation 5 of the Principal Regulations, shall be substituted as under "the charges for the Deviation for the over-injection by the seller in a time block in excess of 12% of the schedule or 150 MW, whichever is less, shall be zero, except in case of injection of infirm power, which shall be governed by the clause (5) of this Regulation and except for wind and solar energy generating stations whose scheduling is done by RLDCs, which shall be governed by sub-clauses (v) to (vii) below:</p>
		<p>OGPL submits that the forecasting and scheduling be done by RLDC and not by the generators and hence has proposed suitable changes in the draft.</p>

OGPL's suggestions / comments on CERC's Framework on Forecasting, Scheduling & Imbalance handling for Renewable Energy Generating Stations		
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	<p>4. Insertion of new proviso under clause (1) under Regulation 5: After sub-clause (iv) to clause (1) of Regulation 5 of the Principal Regulations, new sub-clauses (v), (vi) and (vii) shall be added as under:- (v) If the actual generation is in the range 88% to 100% of schedule, the wind and solar generator would pay to the Regional DSM Pool, for the shortfall energy at a fixed rate as may be determined by the Commission from time to time through separate order. In addition, the wind and solar energy generator will buy the Renewable Energy Certificates (RECs), equivalent to the shortfall energy and transfer them to the buyer to enable it to fulfil its RPO obligation.</p> <p>(vi) If the actual generation is below 88% of the schedule, the wind and solar energy generator would pay to the Regional DSM Pool, for the shortfall energy below 88% at such fixed rate as may be determined by the Commission from time to time through separate order. In addition, the wind and solar energy generator will buy RECs (equivalent to the shortfall energy) to ensure that equivalent renewable energy has been injected into the grid to enable the buyer to fulfil its renewable purchase obligations. The RECs so purchased shall be extinguished as per the provisions of the prevailing Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, as amended from time to time, and the detailed procedure issued thereunder.</p> <p>(vii) If the actual generation is in the range of 100% to 112% of schedule, the wind and solar energy generator would be paid from the DSM Pool for such excess generation at such fixed rate as may be determined by the Commission from time to time. In addition, the wind and solar energy generator would also be issued RECs for such excess generation. For actual generation beyond 112% of the schedule, the wind and solar energy generator would be compensated by way of issuance of RECs only.</p>	<p>The entire wind power generation is not sold under FIT alone. There are other forms of sale-captive/open access and under APPC rate. Hence the proposal for buying RECs when the actual generation is below the schedule, assuming that the buyer would default on its RPO is not correct as not all the power are sold as green power. Further the 12% bandwidth proposed by CERC, in the absence of any basis or experiment appears impossible to meet at the individual pooling station. Based on our the experience from some of our members, it appears that even achieving 70% accuracy consistently is difficult. While this being the fact the proposal to reduce 12% appears arbitrary OGPL therefore strongly suggest that it is possible to achieve better accuracy only when forecasting and scheduling is done at regional level comprising a wider geographical area and a larger installed capacity as it tends to compensate errors across different locations. Further considering the fact that there are dispersed ownership with many of them holding even as low as 250KW wind turbines to get all them on board would be near impossible posing greater challenges in depooling the financial implications. It is also pertinent to</p>
		<p>Proposed amendment would not be required if centralized forecasting and scheduling is done and the cost are socialized.</p> <p>Without prejudice to OGPL's suggestion for regional forecasting our comments on the accuracy band and cost for deviation as proposed in the draft are given in the covering letter.</p>

OGPL's suggestions / comments on CERC's Framework on Forecasting, Scheduling & Imbalance handling for Renewable Energy Generating Stations			
Clause No.	Description of Existing Clause	Suggestions / Comments	Reasons for the suggestions / comments given
	<p>5. Amendment of Regulation 5 of Principal Regulations: In clause (2) of Regulation 5 of the Principal Regulations, the words "The Charge for Deviation shall be determined in accordance with the following methodology" shall be substituted by the words "The Charge for Deviation, except for wind and solar energy generators whose scheduling is done by the RLDCs, shall be determined in accordance with the following methodology".</p> <p>6. Insertion of a new proviso to clause (1) under Regulation 7: After the existing proviso to clause (1) of Regulation 7 of the Principal Regulations, a new proviso shall be added as under:- "Provided that the limits on deviation volume and consequences for crossing these limits (including the additional charges for wind and solar energy generators whose scheduling is done by the RLDCs"</p>	<p>In clause (2) of Regulation 5 of the Principal Regulations, the words "The Charge for Deviation shall be determined in accordance with the following methodology" shall be substituted by the words "The Charge for Deviation, except for wind and solar energy generating stations whose scheduling is done by the RLDCs, shall be determined in accordance with the following methodology".</p> <p>After the existing proviso to clause (1) of Regulation 7 of the Principal Regulations, a new proviso shall be added as under:- "Provided that the limits on deviation volume and consequences for crossing these limits (including the additional charges for deviation) as stipulated under</p>	<p>point out that OGPL would like to extend all cooperation for initiating this forecasting and scheduling for wind energy generating stations and its committed to making this exercise a success with a view to integrate this green power into the main stream grid. OGPL is also agreeable to pay the cost incurred for undertaking the forecasting and scheduling exercise to RLDC who can choose any good quality service provider of their choice to get the best quality forecast.</p>

OGPL's suggestions / comments on CERC's Framework on Forecasting, Scheduling & Imbalance handling for Renewable Energy Generating Stations			
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REC conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation)	<p>Short title and commencement - (1) These regulations shall be called the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) (Fourth Amendment) Regulations, 2015,</p> <p>(2) These regulations shall come into force with effect from the date of their publication in the Official Gazette.</p> <p>2. Insertion of a new clause under Regulation 5: After clause (1A) of Regulation 5 of the Principal Regulations, a new clause (1B) shall be added as under:-</p> <p>"(1B) Wind and solar energy generators whose schedule is done by RLDCs and who are governed by the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, as amended from time to time, for settlement of the deviation from schedule, shall be eligible for issuance of RECs based on the quantum of deviation from schedule as over-injection as per the deviation charge accounts prepared by the concerned Regional Power Committee (RPC)."</p>	<p>Regulation 7 shall not apply to wind and solar energy generating station whose scheduling is done by the RLDCs.</p> <p>The proposed amendment would not be required if OGPL's submission are considered favourably for forecasting by RLDC only at the regional level. Further as mentioned earlier, this amendment would lend credence to the assumptions that the entire wind power generated and sold is being utilized for fulfilling RPO by the buyer whereas in reality the fact is not so. OGPL submits to drop the proposed amendment.</p>	