

To

Date: 22nd October, 2020

Mr. Sanoj Kumar Jha
The Secretary
Central Electricity Regulatory Commission
Chanderlok Building, 36 Janpath
New Delhi-110001

Ref: CERC's Notification No. L-1/260/2021/CERC, dated: 07.09.2021

Subject: Comments/ Suggestions on draft Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) Regulations, 2021

Dear Sir,

Please find below comments/ suggestions on draft Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) Regulations, 2021, on behalf of Kreate Energy (I) Pvt. Ltd.

Clause no. 7 (Normal Rate of Charges for Deviations)

Comments

- Explanatory Calculation may be furnished for Weighted Average Ancillary Service charge (in paise/kWh) for better clarity and Understanding.
- Deviation charges applicable for a period of one year from effective date of regulation may have an upper capping (as per average price trends of power exchanges taking out odd market values in some blocks in few days due to unforeseen constraints).
- In case of complex events such as outages at TPPs is not predictable and will result in the higher penalty at the generator/seller end if Price Capping is not imposed at normal rate of charge.
- Must be frequency link for grid stability

Clause no. 8 (1): Charges for Deviation for WS seller

Comments

The proposed draft regulations envisage every grid connected regional entity is to adhere to the schedule as per Grid Code. Any deviation shall be managed by the Load dispatch Centre as per the Ancillary Services Regulations.

The charges for deviation payable by way of over injection and under injection by seller as well as by buyer in a time block have been given in the draft proposal. In case of over injection by certain seller where generation is depended on unpredictable Weather conditions and Renewable

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sources, deviation charges have been made zero. On the other side, deviation charges in case of under drawl by the state utility has also been made zero where the actual demand of buyers in the state is again weather related phenomena specifically in the monsoon seasons.

Wind & Solar seller

It is understood:

- 1) In case of **Over Injection**, WS sellers will not be paid for any extra generated energy beyond the given schedule for any time block.
- 2) In case of **Under Injection**, WS sellers shall be exempted from the payment of deviation charges up to 10% of deviation (This exempted band has been reduced from currently applicable 15% band).

Beyond 10% and up to 100% deviation WS sellers will have to pay back the DSM charges at the rate of 10% of contract price along with the amount of total shortfall in energy against the schedule at the contract price. In the absence of contract price DSM charges shall be applicable at the rate of ACP (Area clearing price).

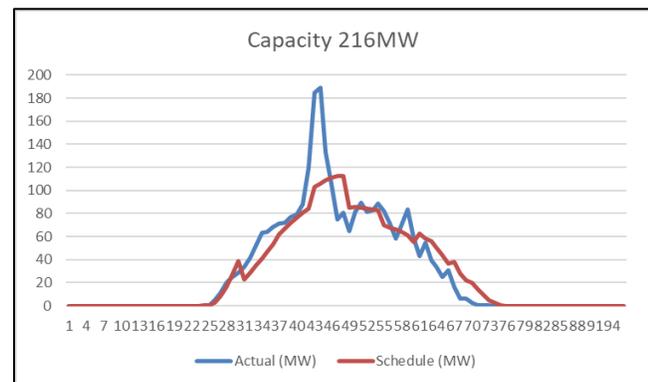
Over Injection Case:

It is the fact that power generation from Wind and Solar energy sources are variable in nature. As regards the Forecasting & Scheduling, it is very much depended on Weather conditions, which are not under the control of seller. The error in the weather forecasting are substantial specifically in monsoon seasons. This have ultimate impact on the accuracy level of power generation forecast. These seasonal and day variations phenomena may be logically accounting for in deciding the deviation charges. Highly accurate power forecasting of these energy sources which depend on Weather forecasting agency and its accuracy is not achievable.

From the actual studies conducted by our Team, it has been observed that the error due to Weather forecast even from best weather organization has been in the range of 10%-12% for Solar and 13%-15% for wind. Whereas by deploying AI based algorithm for power module, the accuracy is still not achievable at the level of 95% for all the time block and in a few block even less.. Further, interruption of data flow from W& S farms also impact the accuracy of Forecasting & Scheduling. In this context, a brief of case studies with snap shots are given for reference.

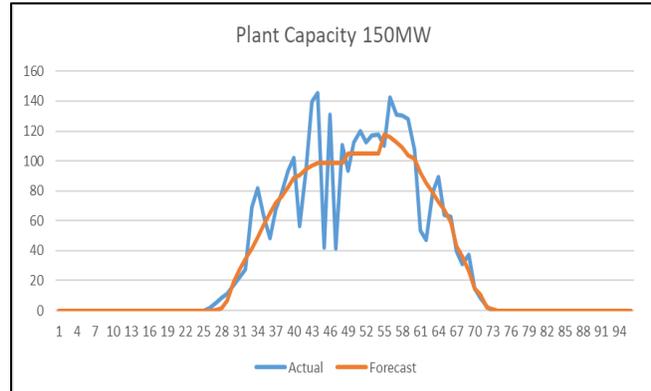
Case-I study Solar:

This is a case of a cloudy weather day, where overall plant generation was down. Schedule has been generated accordingly. But clouds over the solar plant cleared for some time and actual generation shoots up.



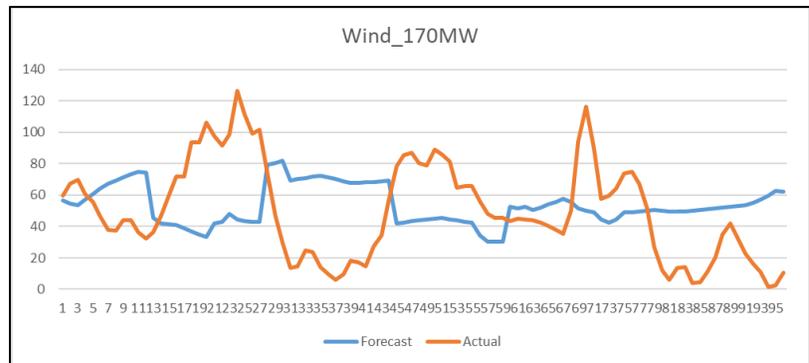
Case-II study Solar:

This is a case of an intermittent cloudy weather, there is very high fluctuation in actual generation. Schedule has been generated accordingly. But due to high fluctuation, energy was over injected and under injected for few blocks.



Case-III study Wind:

Here we can see there is very high fluctuation in wind power due to high wind speed fluctuations. Actual generation varies from 20MW to 120MW in very short interval. Hence it was unable to capture and resulted in over and under injection.



The proposal to make deviation charges zero in case of over injection by Wind & Solar seller and other renewable sources may require revisit keeping in view encouraging RE development, Greening the Grid, Climate conditions, provisions of Act, Policy and must run status of plants from the natural resources.

Clause no. 8 (1) (Charges for Deviation- for General Seller)

Comments

Deviation Percentage (%) should be gradually reduced after reviewing the performance for 1-2 Years.

Clause no. 8 (2)

Charges for deviation in a time block by a buyer shall be payable:

Buyer (being a RE Rich State):

- (i) “@ normal rate of charges for deviation up to 12% Deviation-buyer (in %) or 250 MW Deviation-buyer (in MWh) in a time block, whichever is lower.”
- (ii) @110% of normal rate of charges for deviation beyond the above limit

Comment:

- Many times, the sudden cloud effect causing zigzag pattern in solar generation with variation of more than 400 MW, affects the load pattern of RE rich states like Gujarat, Karnataka, Rajasthan, etc.

These RE rich states are having 30-40% portfolio of ISGS and 25-30% installation of RE source of generation within state & their installation dispersed to large geographical area. Hence, the generation from Intra State RE sources are intermittent and unpredictable for the State. Therefore, it is very difficult to manage deviation within 250 MW.

In view of above facts, the limit for deviation for above RE-rich states may be enhanced to 500 MW from 250 MW.

Clause no. 8 (3) (Charges for Deviation- for General Seller)

Comments

Because of the Higher Price Trends at power exchanges which could be unforeseen events, the Startup/Infirm Power drawl to run the unit would be a constraint if it is payable at the normal rate of charges for deviation, hence it is suggested to cap the normal rate of charges for deviation.

Clause no.10 (1) (Schedule of Payment of charges for deviation)

Comments

Payment timeline shall be increased as this will put financial burden in case of generators/buyers or continue with the previous one i.e. 12 days.

General Comments

This is known fact that the Availability Based Tariff (ABT) since introduced by CERC, and its further improvement/modifications by notifying/amendments like UI mechanism & DSM Regulations linking the prices for settlement of deviation with grid frequency have been able to a great extent in in maintaining the load-generation balance which facilitated in controlling frequency and thereby gradually achieving success in stable operation of the Grid.

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DSM is a de-centralized tool for controlling Grid frequency and is like the secondary reserves which are automatic to relieve the primary reserve and restore frequency back to its nominal value by equal participation by all the key stakeholders spread out in the country even at the state level. The ancillary services which comes under the category of tertiary reserves to relieve the secondary reserves and is generally get activated within 15 minutes from the despatch instructions. The provision of such ancillary services that too proposed to be manually managed by the Grid operator at center level.

The availability of generating units for ancillary services may be limited under the peak demand scenario having most of generation having long term commitment. This situation would be more alarming under the fuel shortage of thermal plants and would further become criticality with the enhancement of Wind & solar integration to the grid as during the peaking time the generation from these sources would deplete.

In case there are certain limitations of existing DSM Mechanism that can be taken care by further modifying the DSM Regulations. Deviation price can be very well addressed by factoring these commercial components in scaling up the Deviation charges by linking with Grid frequency as well as the market prices/ACP. Even the seasonal and day variations phenomena may be logically accounting for in deciding the deviation charges. Ancillary services which are standalone still could be add on and to be managed by Grid operator to further enhance Grid Security.

For Kreate Energy (I) Private Limited

Azhar Hussain



Azhar Hussain
Company Secretary
Date: 22.10.2021