NATIONAL SOLAR ENERGY FEDERATION OF INDIA

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Date: 28.06.2019

To,

The Chairman
Central Electricity Regulatory Commission
3rd and 4th Chanderlok Building 36, Janpathh Rd,
New Delhi - 110001

Sub - To review Indian Electricity Grid Code and other related issues

Dear Sir

National Solar Energy Federation of India (NSEFI) is a non-profit organization with the objective of solar power development. It is an umbrella organization representing solar energy companies active along the whole photovoltaic value chain: project developers, manufacturers, engineering companies, financing institutions and other stakeholders. NSEFI is founded in 2013 by solar energy industry leaders with the vision to promote solar energy, is a public trust based in New Delhi.

Our Members are operating solar power projects across the country, under the Central Schemes as well as State schemes across India. NSEFI is hereby takes the opportunity for addressing an important issue may help in achieving ambitious target of 175 GW of renewable energy capacity by 2022. This includes 100 GW from solar, 60 GW from wind, 10 GW from bio-power and 5 GW from small hydro power.

Points for consideration of Expert Group appointed by CERC to review Indian Electricity Grid Code and other related issues:-

Regulation 5.2 (u)

"5.2 (u) Special requirements for Solar/ wind generators

System operator (SLDC/ RLDC) shall make all efforts to evacuate the available solar and wind power and treat as a must-run station. However, System operator may instruct the solar/wind generator to back down generation on consideration of grid security or safety of any equipment or personnel is endangered and Solar/ wind generator shall comply with the same. For this, Data Acquisition System facility shall be provided for transfer of information to concerned SLDC and RLDC"

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Issue

As per Regulations 5.2 (u) that the SLDC/RLDC can instruct the solar/wind generator to back down only in cases of grid security or safety of any equipment or personnel is endangered.

Many SLDs are asking wind and solar generators to back down in cases other than event of grid security or safety of any equipment or personnel is endangered, like low demand in the system,.

Suggestion

Therefore, it is suggested that any backing down in cases other than grid security or safety of any equipment or personnel is endangered, a provision of deemed generation should be provided and its compensation form the State or regional UI Pool by SLDC /RLDC needs to be mandated.

Definition

It is suggested that the term "Grid Security" needs to be specifically defined as the low demand in system cannot be considered as a grid security event. SLDCs in the name of low demand asking high cost wind and solar generators to back down throughout the day, without asking State thermal generator to back down up to its technical limit or without reducing central sector share.

Regulations 6.4 Demarcation of responsibility

Regulation 6.4(2) (b) read as under:

2. The following generating stations shall come under the respective Regional ISTS control area and hence the respective RLDC shall coordinate the scheduling of the following generation stations:

"(b) Ultra Mega Power Projects including projects based on wind and solar resources and having capacity of 500 MW and above".

Accordingly, a STU substation where 500 MW and more wind and solar generators are connected, its scheduling jurisdiction comes under RLDC. RLDC and RPCs are reluctant to implement the same as SLDCs are opposing for the same, intension behind the proposed regulation was to integrate large scale wind/solar generation in larger grid, where it can be absorbed easily. Therefore, the Regulation 6.4 (2) (b) needs to be specifically mandate RLDC/SLDC for implementation of the same.

Regulation 5.1 Operating Philosophy

It is submitted that the CEA through its Technical Standards for connectivity to the Grid (Second Amendment 2019) mandate to participate in frequency response as under:

Clause 4(C) (4) The generating stations with installed capacity of more than 10 MW connected at voltage level of 33 kV and above –

(ii) Shall have governors or frequency controllers of the units at a drop of 3 to 6% and a dead band not exceeding ±0.03 Hz:

Provided that for frequency deviations in excess of 0.3 Hz, the Generating Station shall have the facility to provide an immediate (within 1 second) real power primary frequency response of at least 10% of the maximum Alternating Current active power capacity;

Clause 4(C) (4): The generating stations with installed capacity of more than 10 MW connected at voltage level of 33 kV and above –

(iii) shall have the operating range of the frequency response and regulation system from 10% to 100% of the maximum Alternating Current active power capacity, corresponding to solar insolation or wind speed, as the case may be;

Suggestions

In Renewable Energy (RE) Power plants (Solar/Wind), it is only possible to curtail active power injection in to the grid based on frequency response requirement, as they are fueled by natural resource i.e., Solar irradiation and Wind speed. Enhancement of power by installing surplus capacity is not a viable solution. Unlike Thermal Power Plants, RE Power Plants are not capable of delivering frequency response through any governor system. Since generation of RE plants vary through the day and depend on natural resource, ramping up of generation by 10% when frequency deviation is in excess of 0.3Hz is unrealistic.

Hence, we request CEA to review the requirement. It is understood that frequency response from RE Power Plant is expected when plant is generating between 10% to 100% of its capacity depend upon solar insolation or wind speed. However as described above, expectation of frequency response from RE Power Plant is unlikely and impractical. For wind/solar generators, overarching principles on above line need to incorporated under the Operating Philosophy as a part of IEGC.

In this regard we would also request your appointment to discuss the afore mentioned aspects.

Look forward to your good self's positive consideration in the matter.

Thanking You

Regards

28/6/19

Mr. Subrahmanyam Pulipaka

Chief Executive Officer

National Solar Energy Federation of India