PXIL
Transforming Power Markets

Ref: PXIL/S&R/08102021 Date: 8th October, 2021

To
The Secretary
Central Electricity Regulatory Commission
3rd and 4th floor, Chanderlok Building
36 Janpath
New Delhi - 110001

Sub: Public notice issued by CERC on "Draft Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) Regulations, 2021 – Observations, comments and suggestions from Power Exchange India Limited.

Ref: Public Notice No. L-1/260/2021/CERC dated 7th September, 2021

Dear Sir,

The Electricity Act 2003 mandates the Commission to develop a framework that provides for guidelines and standards to be followed by market participants in the system to plan, develop, maintain and operate the power systems, in the most secure, reliable, economic and efficient manner.

In an electricity system, supply and demand has to be balanced perfectly in real time. Imbalances may occur due to error by entities in either forecasting or inadvertently due to various unforeseen events. Entities need to be provided signals to ensure that such imbalances are self-corrected instantaneously.

A deviation settlement mechanism providing such price signals to promote self-correcting behaviour is important to ensure system integrity, system operation in economic and efficient manner, while facilitating healthy competition in transaction in electricity.

With the recent introduction of Real Time Contracts from 1st June 2020 and the proposed Ancillary Services Contracts, the prices discovered in different Contracts can be used as a benchmark for settling real time deviations between schedule and actual for all grid connected entities.

We take this opportunity to welcome this structural change in the market which will promote market based transactions to ensure secure, reliable and efficient operation of the grid.

We request the Hon'ble Commission to kindly take our suggestions on record and grant us an opportunity to present them to the Commission and its staff.

Thanking You,

Yours faithfully,
For **Power Exchange India Limited**

Chandrashekhar Bhat

Vice President (IT)

PXIL suggestions and observation on Draft CERC (Deviation Settlement) Regulations, 2021

Interplay between transacting instruments

The interplay between the transacting instruments plays a vital role in acceptability of migration from regulated mechanism vs. market based mechanism. With the introduction of Real Time Market (RTM) from 1st June 2020, market participants have opportunity to adjust their demand/supply deficit situation 1-hour prior to delivery. The RTM is market instrument available on Power exchange platform

Post-RTM the System Operator deploys the Reserves Regulation Ancillary Services (RRAS) to correct anticipated deviations in demand/supply position of grid connected entities. The RRAS is a regulated instrument wherein in eligibility for participation is predefined.

The Hon'ble Commission has issued the draft CERC (Ancillary Services) Regulations, 2021, wherein System Operator as the Nodal Agency shall deploy Primary and Secondary services as a regulated mechanism followed by Tertiary services to be procured as market based mechanism by utilising the bid aggregation services of Power exchanges.

The draft Regulation proposes highest of the weighted average Area Clearing Price (ACP) DAM / RTM / Ancillary Service Charges for all time blocks as the normal rate of charges for deviation.

Historically, frequency-price vector was used to settle deviations, in order to maintain discipline among grid connected entities, the price-vector was tweaked from time to time, to enable the Deviation Settlement Mechanism (DSM) to act as disciplinary tool to maintain grid frequency. DSM is a mechanism to account for the **inadvertent exchange** between market participants and not a balancing mechanism. The DSM price is now proposed to factor the transaction occurring in very short notices i.e. RTM and the proposed SRAS and TRAS services. The proposed market based DSM would encourage Discoms to undertake demand forecasting exercises at regular intervals, assess their portfolio requirement and access market instruments for correcting its position.

PXIL submits clause wise comments / suggestions on the draft regulations.

1. Regulation 6 Computation of Deviation

"(1) Deviation in a time block for general sellers shall be computed as follows:

Deviation-general seller (in MWh) = [(Actual injection in MWh) – (Scheduled

generation in MWh)].
Deviation-general seller (in %) = 100 x [(Actual injection in MWh) – (Scheduled generation in MWh)] / [(Scheduled generation in MWh)].

(2) Deviation in a time block for WS sellers shall be computed as follows:
Deviation-WS seller (in MWh) = [(Actual Injection in MWh) – (Scheduled generation in MWh)].
Deviation-WS seller (in %) = 100 x [(Actual Injection in MWh) – (Scheduled generation in MWh)] / [(Available Capacity)]

(3) Deviation in a time block for buyers shall be computed as follows:
Deviation- buyer (in MWh) = [(Actual drawal in MWh) – (Scheduled drawal in MWh)].
Deviation- buyer (in %) = 100 x [(Actual drawal in MWh) – (Scheduled drawal in MWh)] / [(Scheduled drawal in MWh)]"

Suggestions:

The Regulation proposes deviation to be computed based on 'Available Capacity' in case of wind and solar sellers, while for sellers other than wind and solar the deviation is computed with reference to 'scheduled generation in MWh'.

The Hon'ble Commission is requested to compute deviation in case of WS seller similar to general seller.

2. Regulation 7 Normal Rate of Charges for Deviations

" (1) The normal rate of charges for deviation for a time block shall be equal to the Weighted Average Ancillary Service Charge (in paise/kWh) computed based on the total quantum of Ancillary Services deployed and the total charges payable to the Ancillary Service Providers for all the Regions for that time block:

Provided that for a period of one year from the date of effect of these regulations or such further period as may be notified by the Commission, the normal rate of charges for deviation for a time block shall be equal to the highest of [the weighted average ACP of the Day Ahead Market segments of all the Power Exchanges; or the weighted average ACP of the Real Time Market segments of all the Power Exchanges; or the Weighted Average Ancillary Service Charge of all the regions] for that time block:

Provided further that in case of non-availability of ACP for any time block on a given day, ACP for the corresponding time block of the last available day shall be considered:

Suggestions:

The Regulation proposes highest of the weighted average ACP of DAM or RTM or Ancillary Service Charges for that time block.

The Regulation 5 (1) (a) (iv) of CERC (Power Market) Regulations, 2021 provides for 'Market splitting' to be adopted in case of congestion in transmission corridor for Collective Contracts i.e Day Ahead Contracts and Real-time Contracts.

> ***5. Contracts transacted on Power Exchanges***
>
> ***(1) Day Ahead Contracts and Real-time Contracts***
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> ***(a) Price discovery:***
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> *(i) Price Discovery shall be done by Power Exchanges or by Market Coupling Operator as and when notified by the Commission.*
>
> *(ii) Price discovery mechanism shall adopt the principle of maximisation of economic surplus (sum of buyer surplus and seller surplus), taking into account all bid types.*
>
> *(iii) The bidding mechanism shall be double sided closed bid auction on day ahead basis or on real time basis, as the case may be.*
>
> *(iv) The price discovered for the unconstrained market shall be a uniform market clearing price for all buyers and sellers who are cleared:*
>
> *Provided that in case of congestion in transmission corridor, market splitting shall be adopted.*

PXIL humbly informs Hon'ble Commission that in case of market splitting, the ACP of areas / zones in the deficit region is higher than ACP of remaining areas / zones comprising of surplus region, the Buyers in deficit regions purchase power based on ACP which is higher when compared to the price at other Buyers purchase in surplus region. Further following possibilities may emerge in case of Price determination process:

a. In multi power exchange scenario market splitting can occur in one of the Power exchange and may not occur in other Power exchange, thus multiple exchanges may discover different prices
b. Market splitting may occur in one Contract for a time block and the same may not occur in other Contract for the same time block i.e. Day Ahead Contract or Real Time Contract

c. Market participants may be averse to pay deviation charges computed by considering market splitting when such participant has not been exposed to market splitting in the same time block in any Contract i.e. Day Ahead Contract or Real Time Contract

To overcome the above scenarios, the Hon'ble Commission is requested to include following provision in Regulation 7 (1) (iv):

Provided that in case of congestion in transmission corridor, market splitting shall be adopted. Provided further entities shall settle deviations at deviations charges considering market splitting even if such entities have not transacted during such time block where market splitting has occurred.

3. Regulation 8 Charges for Deviations

"(1) Charges for deviation in a time block by a seller shall be payable by such seller as under:

Seller	*Deviation by way of Over injection*	*Deviation by way of Under injection*
For WS seller	*Zero*	(i) Zero up to 10% Deviation-WS seller (in %); (ii) @ 10% of the normal rate of charges for deviation beyond 10% Deviation-WS seller (in %): Provided that such seller shall pay back to the Deviation and Ancillary Service Pool Account for the total shortfall in energy against its schedule in any time block due to under injection, (a) at the contract rate at which it has been paid based on schedule, or (b) in the absence of a contract rate at the rate of the Area Clearing Price of the Day Ahead Market for the respective time block

<u>Suggestions:</u>

The Regulation proposes deviation charge as contract rate at which the power is scheduled during the time or in absence of contract rate it shall be the Area Clearing Price of Day Ahead Market for that time block.

PXIL humbly submits that Integrated Day Ahead Market would be introduced shortly by the Power exchanges, in such a scenario in case of WS sellers, the Area Clearing Price of Renewable segment for that time block should be utilised for computing deviation charge for that time block.

4. Other Suggestions – uniform Price signal in different market instruments

PXIL submission:

The Regulation proposes highest of the weighted average ACP of DAM or RTM or Ancillary Service Charges for that time block as the charge for deviation settlement.

PXIL submits that among the three market based instruments the proposed Ancillary Services charges shall be based on price discovery mechanism prescribed in draft CERC (Ancillary Services) Regulations, 2021 (i.e. 'draft AS Regulation'). As provided in the draft AS Regulation, the services would be called and deployed by Nodal Agency, further, the Nodal Agency shall engage the services of Power exchange platform to aggregate and share bids received from participants for TRAS Up / TRAS Down services. The Price discovery in case of TRAS shall be undertaken by Nodal Agency that would be applicable for entities scheduled in TRAS irrespective of the Power exchange at which the entity has submitted its bid. In case of SRAS, the Nodal Agency shall directly engage the services of such entities that are keen to participate in SRAS. Thus, it is observed that in case of one of the market instrument a 'Single Price' as discovered by Nodal Agency shall be applicable for all the participants in this instrument.
