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Special Power Agreement & Tariff Circle
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CIN: U32201UP1999SGC024928

No. 546 /SPATC

Dated : 31/07/2018

**Subject: Comments on CERC (Deviation Settlement Mechanism and related matters)
(Fourth Amendment) Regulations.**

Secretary,
Central Electricity Regulatory Commission,
3rd & 4th Floor, Chandralok Building,
36 Janpath, New Delhi. 110001
Phone- 23753942, Fax-23753923

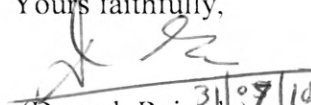
Sir,

Kindly find enclosed herewith comments of U.P. Power Corporation Ltd. on CERC
(Deviation Settlement Mechanism and related matters) (Fourth Amendment) Regulations,
2018 for kind consideration and further necessary action.

Thanking you,

Encl: As above

Yours faithfully,


(Deepak Raizada)
Superintending Engineer

Comments on CERC (Deviation Settlement Mechanism and related matters) (Fourth Amendment) Regulations, 2018

The proposed amendments to the Regulations intend to achieve following objectives:

- 1. Revised DSM Price Vector is linked to daily average Clearing Price. The Day-ahead market price of the Power Exchange having market share of 80% or more in energy terms on a daily basis is linked to the DSM price vector.**

Power traded through Power Exchanges in India comprised merely 4% of the total generation in India in 2016-17¹ and 3% of total generation in India in 2015-16². Therefore, it can be inferred that the depth of Power Exchange market in India is shallow. In a shallow market, actions of a single player can materially influence the outcome of the discovered price. Increase of Power demand in the short term (say peak hours in summer months) can also lead to abrupt increase in daily average Clearing Price that is being linked to the DSM Price Vector. Therefore, linking DSM Price Vector to the daily average Clearing Price when the market is shallow is not prudent and it shall be deferred until the market achieves sufficient depth. Further, it is suggested that linking of DSM Price Vector to daily average Clearing Price can be done in future when power traded through Power Exchanges in India comprises around 15% of the total generation in India.

- 2. The frequency band is proposed to be tightened from existing 49.70 Hz - 50.10 Hz. to 49.85 Hz – 50.05 Hz.**

The existing allowable deviation from the mean frequency 50 Hz is 0.80% whereas the proposed allowable deviation from the mean frequency of 50 Hz is 0.40%. Therefore, the frequency band for allowable deviation is reduced by 50%, which is a drastic tightening of the frequency band. UP Discoms submit that the frequency band may be tightened in a gradual manner over the period instead of 50% reduction in one go.

- 3. Total allowable deviation from schedule (overdrawal/ underdrawal) during a day is proposed to be revised from 12% of scheduled drawal or 150 MW whichever is lower to 3% of the total schedule for the drawee entities and 1% for the generators**

The proposed drastic reduction in allowable deviation from schedule (overdrawal/ underdrawal) during a day from 12% of scheduled drawal to 3% of the total schedule for the drawee entities (i.e. UP Discoms) will adversely impact the financial position of UP Discoms and burden the end consumers. The reasons for the same are elaborated as follows:

¹Source: Report on Short-term Power Market in India: 2016-17, <http://www.cercind.gov.in/2017/MMC/AR16-17.pdf>

²Source: Report on Short-term Power Market in India: 2015-16, <http://www.cercind.gov.in/2016/MMC/AnnualReport15-16.pdf>

a) Demand Forecasting Accuracy: The implication of tightening of allowable deviation from schedule during a day from existing 12% of scheduled drawal to 3% of the total schedule for the drawee entities, as well as, tightening of frequency band from existing 49.70 Hz - 50.10 Hz. to 49.85 Hz – 50.05 Hz on UP Discoms is that the Discoms need to accurately forecast the demand such that the deviation in forecast is not beyond $\pm 3\%$. This is indeed a difficult task considering that current deviation in forecast is in the range of $\pm 6\%$ to $\pm 8\%$. Uttar Pradesh is among the largest states in India with five distribution companies each with a different consumer mix. Domestic category, Commercial category and Agricultural category consumers mainly dominate the consumer mix. Forecasting demand is comparatively difficult for the UP discoms vis a vis other distribution companies where Industrial consumers dominate the consumer mix. With such a consumer mix, the demand forecast is highly dependent on weather forecast. The weather forecasts become accurate over time with more and more data and through machine learning. Further, it is important to highlight that in the next 2 years around 1.27 Crore consumers will be added under the SAUBHAGYA Yojana³ in the state of Uttar Pradesh. This is almost 48% of the total all India target under the Saubhagya Yojana. Thus, considering these facts it is pertinent to note that in the short term, there will be challenges in drastically improving demand forecast accuracy. Therefore, the accuracy levels in demand forecasting can be achieved only over longer duration.

b) Supply side factors:

UP Discoms submit that following factors impact the electricity supply position in the state of Uttar Pradesh:

- i. Coal shortages,
- ii. Coal rakes supply shortages impacting coal availability at generating stations,
- iii. Railway congestions,
- iv. Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited has about 2230 MW capacity, which belongs to vintage units out of total 4650 MW of installed capacity. The vintage units are more prone to frequent breakdowns resulting in entire unit being taken out of service thus, creating supply side imbalance in the short term.

³Source: Saubhagya Dashboard, <http://saubhagya.gov.in/>

- v. Ministry of New and Renewable Energy (MNRE), GoI has given a target of 10700 MW for solar in the State of Uttar Pradesh. There is increased thrust on Renewable energy projects, however Renewable Energy is infirm and has wide fluctuations.

In such scenarios, UP Discoms respond by buying power at short term through power exchanges however, such situations also create instances of overdrawal over which UP Discoms have no control. Further, the average Short Term requirement of power in Northern Region varies in the range of 1000 MW during winters to 3500 MW during summers/ monsoon⁴. Since the full requirement cannot be met through NR generators, NR States have to procure power from generators/suppliers outside the Northern region. The power procured on short-term basis varies from 1000 MW to 2000 MW. As per NLDC data, there is no corridor margin available in WR- NR route and therefore the only option of getting power into NR is ER-NR route. The ATC in ER - NR route varies from 500 MW during winters to 1500 MW during summers / monsoon. As a result, the generators face huge short-term transmission constraints for export of power to Northern Region mainly during the summer and Monsoon season. Therefore, tightening of the frequency band and allowable deviation shall be done gradually with corresponding measures taken to reduce/ alleviate impact of supply side factors.

c) No options to procure/ sell power at short notice:

In the state of Uttar Pradesh the base load is around 12000 MW whereas the peak load is around 20000 MW, this huge deviation (around 67%) in the base load and peak load makes it difficult to forecast demand and accordingly manage procurement of power. Further, the distribution licensees in the state of Uttar Pradesh have committed to 24X7 power for all. In order to meet the commitment of 24X7 power for all as well as to meet any short-term contingencies, the Distribution Licensees in Uttar Pradesh rely on power procurement through power exchange. However, the power exchanges in India namely IEX and PXIL offer intra-day contracts with T+3 hours delivery only. Contrast this with developed markets such as Nordpool⁵, which is a continuous market where trading takes place every day around the clock until one hour before delivery i.e. it offers intra-day contracts with T+1 hours delivery. It is submitted that, in order to conform to the tightened frequency band and tightened

⁴Source: Report of the CAC Sub-Committee on Congestion in Transmission, <http://www.cercind.gov.in/2015/Reports/congestion.pdf>

⁵Source: <https://www.nordpoolgroup.com/the-power-market/Intraday-market/>

allowable deviation, the distribution licensees need to have access to real time options to procure/ sell power on power exchange(s), which is not the current case. Currently, the Distribution Licensees can at most buy/ sell power for T+3 hours delivery in order to manage demand/ supply and deal with any contingencies. In the event of forced outage of transmission line, the system operators NLDC/ respective RLDC(s) initiate Real Time Curtailment (RTC) in such cases Power Exchange(s) take atleast 6 time blocks to revise the schedule which results in Discoms and Open Access consumers bearing charge for Deviation and additional surcharge. Sometimes it is observed that the communication from the system operators NLDC/ respective RLDC(s) to the Power Exchange(s) gets delayed which leads to increase in time frame between line outage and revision of schedule, which again results in Discoms and Open Access consumers bearing charge for Deviation and additional surcharge.

d) Increased burden from penalty proposed:

As elaborated above, the distribution licensees in Uttar Pradesh face numerous challenges in terms of forecasting demand, managing supply side factors and handicapped by no options to buy/ sell power in real time to reduce variability. The proposed amendment has put a ceiling limit of Rs. 8.00 per unit for average Daily Area Clearing Price discovered in the DAM segment of Power Exchange. The average power purchase cost of UP Discoms is Rs. 3.87 per unit. The proposed ceiling limit is 106.7% higher than the average power purchase cost of UP Discoms. It is to be noted that the ceiling limit would increase the financial burden on UP Discoms and correspondingly on the end consumers. It is suggested that considering the huge quantum of power transacted by UP Discoms, the proposed tightening of frequency band and allowable deviation may be relaxed and gradually tightened over the period.

In this context it is submitted that the proposed drastic reduction in allowable deviation from schedule (overdrawal/ underdrawal) during a day from 12% of scheduled drawal to 3% of the scheduled drawal needs to be done in phased manner. It is requested that the Commission may reduce from current limit of 12% to 10%, 8%, 6%....to 3% over a period of 5 years. Further, it is also suggested that Commission may specify slabs based on quantum of power being procured by States. The indicative slabs for deviation limit are as follows:

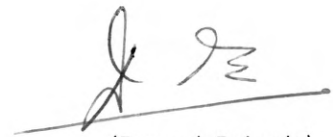
- States procuring less than 2000 MW power - 3% of scheduled drawal,
- States procuring 2000 MW – 4999 MW of power – 6% of scheduled drawal,

- States procuring 5000 MW – 8000 MW of power – 8% of scheduled drawal
- States procuring 8000 MW – 10000 MW of power – 10% of scheduled drawal
- States procuring > 10000 MW of power – 12% of scheduled drawal

4. Amendment Specific comments:

Sr. No.	Proposed Amendment	Comment
1	<p>3.3 The sub-clause (b) of clause (2) of Regulations 5 of the Principal Regulations shall be substituted by the following:</p> <p>"(b) The Charge for Deviation corresponding to grid frequency interval of 'below 50.01 Hz and not below 50.0 Hz' shall be daily average Area Clearing Price discovered in the Day-Ahead Market (DAM) segment of Power Exchange. The day-ahead market price of the Power Exchange having a market share of 80% or more in energy terms on a daily basis shall be used for linking to the DSM price. If there is no single Power Exchange having a market share of 80% or more, the weighted average day-ahead price shall be considered".</p>	<p>Linking of charge for deviation corresponding to grid frequency interval to daily average clearing price discovered in the Day-ahead market is a welcome step, however, considering that the market depth is shallow (only 4%) linking of charge for deviation to Daily average Area Clearing Price is not prudent.</p> <p>In the text, following changes are suggested.</p> <ul style="list-style-type: none"> • 'If there is no single Power Exchange having a market share of 80% or more, the weighted average day-ahead price shall be considered' shall be replaced with – 'If there is no single Power Exchange having a market share of 80% or more in energy terms on a daily basis, the weighted average day-ahead price shall be considered.'
2	<p>3.6 In clause (3) of Regulation 5 of the Principal Regulations, the words "shall be the value coinciding with the energy charges on imported coal on Deviation Price Vector" shall be substituted by the words "shall be equal to its energy charges as billed for the previous month".</p>	<p>The cap rate for the charges for the deviation for the generating stations regulated by CERC using coal/lignite or gas supplied under Administered Price Mechanism (APM) are proposed to be equal to energy charges as billed for the previous month.</p> <p>In case there are no energy charges billed for the previous month what shall be the reference value. More clarity is required in the event of such an occasion.</p>
3	<p>3.7 The clause (4) of Regulation 5 of the Principal Regulations shall be substituted by the following:</p> <p>"(4) The charges for deviation linked to Day</p>	<p>The existing provision in the Regulations empowers Commission to review the charges for deviation from time to time and re-notify the same accordingly. The proposed amendment only empowers Commission to review the charges after 6</p>

Sr. No.	Proposed Amendment	Comment
	Ahead Market prices shall be reviewed by the Commission after six months from the date of notification of these amendments.”	months from the date of notification of the amendments. It is suggested that the Commission shall empower itself to review the charges from time to time and take suitable action if necessary.
4	<p>References in Proposed Amendments:</p> <ul style="list-style-type: none"> • Clause 3 of Regulation 5, • Table-II in clause (3) of Regulation 7, • Proviso to clause (6) of Regulation 7, Note under Illustration B in clause 1(B)(iii) of Annexure-I <p>In all the above places following amendment is proposed “Cap Rate being equivalent to the energy charges as billed for the previous month”</p>	<p>As proposed in the amendment the cap rates shall be equivalent to energy charges as billed for the previous month.</p> <p>However, in practice billing/ invoicing for the month gone by is mostly done in the second week of the succeeding month but DSM bill generation is a weekly activity.</p> <p>Hence, considering this practical difficulty in obtaining energy charges billed for previous month in the first week of succeeding month, clarification is requested on how DSM bill for the first week of the month will be generated.</p>
5	<p>References in proposed amendments:</p> <ul style="list-style-type: none"> • Clause (3) of Regulation 5 • Table-II in clause (3) of Regulation 7 • Proviso to clause (6) of Regulation 7 • Note under Illustration B in clause 1(B)(iii) of Annexure-I 	<p>The term ‘energy charges’ which is used in the proposed amendments needs to be defined in the Regulations for clarity purpose.</p>



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