

CORP:SERV : 2337

17 May 2019

The Secretary
Hon'ble Central Electricity Regulatory Commission
3rd & 4th Floor, Chanderlok Building,
36, Janpath,
New Delhi - 110001

Sir,

Sub: Comments/ suggestions/ objections on Draft Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) (Fifth Amendment) Regulations, 2019 dated 18.04.2019 issued by the Central Electricity Regulatory Commission

Ref:

- (1) Draft Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) (Fifth Amendment) Regulations, 2019 dated 18.04.2019 issued by the Central Electricity Regulatory Commission, and Explanatory Memorandum thereto
- (2) Public notice dated 18.04.2019 given under Section 178(3) of the Electricity Act, 2003 read with Rule 3 of the Electricity (Procedure for Previous Publication) Rules, 2005 inviting comments/ suggestions/ objections from the stakeholders and interested persons on the aforesaid regulations

We would like to thank you for providing us the opportunity to provide our comments/ suggestions/ objections on the Draft Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) (Fifth Amendment) Regulations, 2019 dated 18.04.2019 ("**Draft Regulations**") issued by the Central Electricity Regulatory Commission ("**Hon'ble Commission**").

I. BACKGROUND

- (i) CESC Limited ("**CESC**"), alongside other distribution licensees, has approached the Hon'ble High Court of Delhi by way of writ petitions challenging the legality, validity and vires of the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) (Fourth Amendment) Regulations, 2018 dated 20.11.2018 issued by the Hon'ble Commission ("**Impugned Regulations**"), which are presently pending consideration of the Hon'ble High Court of Delhi.

- (ii) During the hearing of the batch of matters on 27.03.2019, the Hon'ble High Court of Delhi had been pleased to allow the petitioners and other stakeholders to submit comprehensive representations on issues pertaining to the operation of the Impugned Regulations, including Regulations 7.1, 7.10 and 7.11a of the Impugned Regulations, within a week therefrom. Pursuant to the said order, CESC had submitted its representation highlighting the practical and operational concerns being faced by CESC due to the implementation of Regulation 7.10 of the Impugned Regulations, which renders the Impugned Regulations arbitrary and unworkable, to the Hon'ble Commission on 03.04.2019 ("**Representation**").
- (iii) The below issues relating to operation of Regulation 7.10 of the Impugned Regulations have already been conveyed to the Hon'ble Commission vide CESC's email dated 31.07.2018 stating its objections to the Impugned Regulations in response to public notice dated 29.06.2018 inviting comments / suggestions / objections from the stakeholders and interested persons on the draft Impugned Regulations, as well as the Representation, as follows:

1. **Impugned Regulations onerous and arbitrary to the extent it imposes additional charge in the absence of 100% accurate forecasting and imposes such charges even for minor deviations:**

- 1.1 The Impugned Regulations treat every deviation from the schedule, no matter how small, as a deviation inviting additional charge for failure to adhere to sign change requirement. Regulation 7.10 read along with the Statement of Reasons to the Impugned Regulations envisages 100% accurate forecasting by distribution licensees. It is most respectfully submitted that such a position is unworkable in reality, since a distribution company ("**Discom**") cannot forecast demand with absolute accuracy.
- 1.2 The demand of a distribution licensee is based on consumer behaviour. The demand projection is carried out based on the consumer behaviour for a certain period observed by the distribution licensee by applying various complex algorithms to analyse such behaviour in order to arrive at the possible consumer behaviour for the period of projection. However, such projection can never be 100% accurate as any projection is likely to undergo drastic change due to unforeseen circumstances such as change in weather conditions; especially in the case of CESC where on the occurrence of a single thunderstorm, the demand of CESC can plunge by as much as by 300 - 500 MW due to reduction in air-conditioning and other load within its area of supply.
- 1.3 In addition, the scheduling process requires the distribution licensee to forecast the demand in its area of supply for every 15 minute time block for the next day which is determined by the consumption pattern and consumption behaviour of consumers on day-to-day basis. It is submitted that consumers' primary consumption behaviour is not under the control of any entity. Even though CESC's forecasting techniques are quite developed and sophisticated with an error margin of around 2-3%; however, in

spite of such sophisticated methods of forecasting, there is always an element of uncertainty because of unpredictable consumer behaviour which cannot be taken care of in any systematic manner since no forecasting technique available is 100% accurate.

- 1.4 Further, it is impossible to forecast load and generation from solar and wind energy sources to the last MW and even with the use of the most modern techniques, there will be some inherent errors which cannot be eliminated. The difference between the forecasted load and renewable energy generation and actual load and generation cannot be eliminated altogether even with the use of most modern forecasting tools and may result in deviation from the schedule not changing sign after 6 time blocks (i.e. 1.5 hours).
- 1.5 It appears that the objective of sign change stipulation under Regulation 7.10 of the Impugned Regulations is to discourage licensees from regularly drawing from the grid as a source of power without carrying out proper load forecasting, and to prevent any manipulation in the Day Ahead Market. It would be unfair and discriminatory to penalize licensees who are not habitual violators, for even small deviations from schedule despite the use of sophisticated technology. By doing so, it is treating even the compliant Discoms in the same manner as habitual violators irrespective of minor/ sporadic deviation. Thus, a Discom with very few and sporadic instances of minor deviations is treated at par with Discoms habitually overdrawing from the grid in large quantum and levied the same charges/ penalty.
- 1.6 It is humbly submitted that CESC and other similar Discoms using modern forecasting tools are not penalized for the inherent error in the forecasting tool. It is submitted that under Regulation 5 of the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) Regulations, 2014 (**“Principal Regulations”**), the Hon'ble Commission has allowed margin of 12% or 150 MW, whichever is less, for States (except renewable-rich States) and 12% or 200-250 MW, whichever is less, for renewable-rich States for imposition of additional charges beyond nominal frequency band to account for such deviations due to forecasting error.
- 1.7 In light of the above, it is submitted that expecting distribution licensees to conduct 100% accurate forecasting for avoidance of any form of deviation under Regulation 7.10 of the Impugned Regulations, and to penalize them for one-off instances of deviation, is an onerous requirement which needs to be revisited.

2. **Requirement of sign change under the Impugned Regulations being frequency agnostic, does not address concerns of grid security on all occasions and may expose the grid to risk:**

2.1 The purpose of all regulations dealing with the operation of the grid, including the Impugned Regulations, is to maintain grid discipline and to ensure that the licensees connected to the grid support in maintaining the desirable frequency level in the grid.

2.2 Since the requirement of sign change after every 6 time blocks has been mandated without reference to the prevailing frequency, in a situation where the grid is already at a low frequency, the requirement of change of sign for a distribution licensee from under-drawal to over-drawal after 6 time blocks when the frequency is at a low level further adds to the detriment of the grid rather than helping to support it. In a low frequency condition, an under-drawing Discom contributes towards the safety of the grid.

2.3 Similarly, in an event where the frequency of the grid is at a high level, the change of sign from over-drawal to under-drawal by a distribution licensee would further add to aggravating such a situation leading to further grid instability.

2.4 The strict implementation of the Impugned Regulations can lead to a situation where the distribution licensees may resort to manipulation of their schedule to create sufficient margin/ cap in terms of over-scheduling or under-scheduling on daily basis to meet any contingency of sign change during any period of the day, thus defeating the very objective of the Principal Regulations.

2.5 The sign change stipulation envisaged under Regulation 7.10 of the Impugned Regulations is therefore frequency-agnostic, i.e. unrelated to the existing frequency levels of the grid at the time of required compliance by a licensee. This is inconsistent with the very objective of the extant regulations, Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 (“**Grid Code**”), etc. and to such extent is arbitrary in approach. Hence, the same may kindly be considered.

3. **Distribution licensees have to resort to load shedding just to satisfy the sign change stipulation even when there is no danger to grid security:**

3.1 In order to comply with the sign change stipulation envisaged under Regulation 7.10 of the Impugned Regulations, a distribution licensee may be required to resort to load shedding when there is an unexpected demand rise signifying increased requirement of power, even though such sign change may not be required from the grid security perspective.

- 3.2 In addition, a distribution licensee does not have any tool to increase its demand where there is a continued event of under-drawal by the distribution licensee for more than 6 time blocks and it is required to overdraw.
- 3.3 Since the demand of the distribution licensee and its increase is dependent on the increase in consumption by consumers, the distribution licensee does not have any wherewithal to change the sign of deviation from under-drawal to over-drawal where there is no increase in consumer demand even after 6 time blocks. Therefore, such requirement to change the sign of deviation from under-drawal to over-drawal after a period of 6 time blocks for distribution licensee is impracticable and impossible to achieve by the distribution licensee without a corresponding change in the consumer demand. Levy of additional charge on account of failure of Discom to change sign from under-drawal to over-drawal, is therefore manifestly impracticable and arbitrary. The Hon'ble Commission may kindly review the position.

4. **Lack of availability of real time contingency reserve; and inconsistency with other regulations:**

- 4.1 The Hon'ble Commission has indicated in the Statement of Reasons dated 20.11.2018 for the Impugned Regulations that one of the methods to avoid violation of the sign change requirement or to avoid any deviation from the schedule is by keeping available a real time contingency reserve. It is respectfully submitted that such real time contingency reserve cannot be availed for the purposes of sign change within the prescribed period under the extant regulatory and market structure for the following reasons:

- (a) The minimum time required by a distribution licensee to buy power from the market and secure delivery of such power is a period of 3 hours. Vide order dated 08.04.2015 of the Hon'ble Commission in Petition No. 006/SM//2015 in the matter of "Extended Market Session on Power Exchanges", the Hon'ble Commission directed the following:

"Summary of directions in respect of operation of 24x7 intraday/contingency market

9. The Commission directs the following:

...The features of the intraday/contingency market shall be as under:-

i. The existing products for day ahead contingency and intraday markets would continue to be operated by the exchanges. As a principle, the timeline for these products is being extended so that trading window is open for periods as mentioned below:

1. Same day Delivery (upto 2400 hours): The trading window is open round the clock for delivery of power on the same day (minimum delivery period - 3 hours after contract execution subject to corridor availability)."

The above has been reiterated in order dated 17.06.2016 of the Hon'ble Commission in Petition No. 9/SM/2016 in the matter of "Operation of 24x7 Round the Clock Intraday/Contingency Market (Extended Market Session) on the Power Exchanges" wherein the Hon'ble Commission directed the Power Exchanges to continue operation of 24 x 7 Round the Clock Intraday/Contingency Market (Extended Market Session) and directed IEX and PXIL to comply with all the terms and conditions as stated in the Hon'ble Commission's above order dated 08.04.2015.

It is pertinent that some of the recent discussion papers that have been issued by the Hon'ble Commission on market-based dispatch, etc. have taken note of this position to create the framework for real time scheduling and operations.

- (b) Regulation 5.3(xxii) of the West Bengal Electricity Regulatory Commission (State Electricity Grid Code) Regulations, 2007 ("**WBERC Grid Code**") provides the following:

"Revision of declared capacity by the generation station(s) and requisition by beneficiary(ies) for the remaining period of the day or part of the day or injection / drawal of the entities as per agreement shall also be permitted with advance notice. Revised schedules/declared capacity or injection / drawal schedule in such cases shall become effective from the 6th time block, counting the time block in which the request for revision has been received in the SLDC to be the first one.

Provided, in shortfall condition, the revised schedules/ declared capacity or injection/ deemed schedule shall become effective as early as possible but within 6th block. "

Therefore, even in case additional capacity is booked by CESC with a particular generator, in the event of any exigent situation, CESC will require at least 6 time blocks to revise its schedule in order to schedule the power from such reserve capacity under the prevailing WBERC Grid Code, which will be beyond the period that is allowed for sign change under the Impugned Regulations. As a result, CESC and similar Discoms who have a longer interval for revising schedule under their respective state regulations, will be subject to additional charges without any fault of their own. Such a situation is arbitrary and unconscionable.

Moreover, it is not possible for Discoms to identify the cause of deviation and take corrective steps on an instantaneous basis. For Discoms carrying out detailed forecasting and who are not doing planned deviations, it takes 2 to 3 time blocks to identify the source / reason of deviation, the probable duration and the corrective action. Therefore, the cap of six time blocks for sign change in case of sustained deviation, is impractical, onerous and almost impossible to implement.

- (c) Some distribution licensees, such as CESC, also have the benefit of generating stations that are connected to the distribution system, e.g., the Budge Budge plant that

is also owned by CESC which is directly connected to CESC's distribution network. CESC, in order to comply with sign change requirement under the Impugned Regulations, has issued instructions on a few occasions to the Budge Budge plant for reduction or increase of generation for CESC to achieve under-drawal or over-drawal having regard with sign change requirement.

However, the generating station has raised serious objections on occasions with regard to such change in generation patterns since the same amounts to violation of the Restricted Governor Mode Operation ("RGMO")/ Free Governor Mode Operation ("FGMO") requirement that is provided under Regulation 5.2(f) of the CERC (Indian Electricity Grid Code) Regulations, 2010 ("Grid Code"). Regulation 5.2(f)(ii) of the Grid Code provides the following:

"The restricted governor mode of operation shall essentially have the following features:

- a) There should not be any reduction in generation in case of improvement in grid frequency below 50.05 Hz (for example, if grid frequency changes from 49.9 to 49.95 Hz, there shall not be any reduction in generation..."*

It is submitted that accordingly, the generating station has therefore refused to concede to such request of CESC. Therefore, even for a distribution licensee which has an embedded generating station as a real time contingency reserve, it may become impossible for the distribution licensee to avail the services of such generating station in certain situations where the existing frequency levels would not allow the generating station to either increase or decrease its generation on account of RGMO/FGMO restrictions under the Grid Code.

- 4.2 In such situation, imposition of penalty or the forceful implementation of a sign change requirement would require the generating company to act in a manner inconsistent with the Grid Code. There is thus an apparent inconsistency between the provisions of the Impugned Regulations and the Grid Code, and therefore Regulation 7.10 of the Impugned Regulations merits re-visitation by the Hon'ble Commission.

5. Inconsistency with Principal Regulations:

- 5.1 Regulation 7.4 of the Principal Regulations, as amended vide the Impugned Regulations, states the following:

"In addition to Charges for Deviation as stipulated under Regulation 5 of these regulations, Additional Charge for Deviation shall be applicable for over-injection/under drawal of electricity for each time block by a seller/buyer as the case may be when grid frequency is "50.05 Hz and above" at the rates equivalent to

charges of deviation corresponding to the grid frequency of “below 50.01 Hz but not below 50.0 Hz”.

- 5.2 Regulation 7.10 of the Impugned Regulations mandates the following, *inter alia*: “*In the event of sustained deviation from schedule in one direction (positive or negative) by any regional entity (buyer or seller), such regional entity shall have to change sign of their deviation from schedule, at least once, after every 6 time blocks.*”
- 5.3 Therefore, when a distribution licensee changes its sign, i.e. reverses from over-drawal to under-drawal in order to not to violate the sign change stipulation envisaged under Regulation 7.10 of the Impugned Regulations, and when the grid frequency is 50.05 Hz or above, such distribution licensee will have to pay an additional charge for deviation as per Regulation 7.4 of the Principal Regulations.
- 5.4 Thus, in order to comply with one provision of the Impugned Regulations, the entity (either distribution licensee or generating station) will attract penalty under another provision of the Principal Regulations. There is thus an inherent inconsistency between the Impugned Regulations and Principal Regulations, which merits urgent consideration by the Hon'ble Commission.

6. Distribution licensees are penalized for sign change violations for reasons beyond their control:

- 6.1 One of the objectives of imposing additional charge for violation of sign change requirement under Regulation 7.10 of the Impugned Regulations is to restrain the load serving entities, including the distribution licensees, from relying on the grid to meet their demand-supply gap. Thus, if a load-serving entity deliberately tries to rely on the grid to meet its demand-supply gap which can be established by persistent behaviour over a longer time period, only then should it be penalized and not due to mere variation in forecasting of its load and renewable energy sources' generation.
- 6.2 The “Report of the Expert Group to review and suggest measures for bringing power system operation closer to National Reference Frequency” dated November, 2017 under the chairmanship of Mr. A.S. Bakshi, Member, Hon'ble Commission, had recommended calculation and monitoring of Area Control Error for each state control area, region and the neighbouring countries with bias setting. The Expert Group formulated by the Hon'ble Commission had also recommended that the Area Control Error should cross zero level once every hour to start with, and that persistent violation of this condition would render entities liable to penalties. However, it is respectfully submitted that the Hon'ble Commission has not carried out analysis of actual data for the violations of the Impugned Regulations and its severity and impact on the security of the grid before deciding to impose additional charges for such

violation. The entities are thus being penalized for sporadic violations of sign changing requirement for reasons which are beyond their control.

- 6.3 As noted above, as per the WBERC Grid Code, the drawal schedules can be revised by a distribution licensee only six time blocks in advance. There is no product available in the short-term market to enable the distribution licensee to procure power to meet deficit or sell surplus, if any, if the deviation is found to be continuing for say six time blocks in one direction (positive or negative) due to error in forecasting to help in reversing the deviation in the seventh block. Further, as noted above, there is a gap of three hours between bidding and scheduling in the prevailing contingency market [*Refer to order dated 08.04.2015 of the Hon'ble Commission in Petition No. 006/SM//2015 in the matter of "Extended Market Session on Power Exchanges"*].

Further, the product in the contingency market is on hourly basis; therefore, for changing the sign in one block of 15 minutes as specified in the Impugned Regulations, power for minimum one hour is required to be procured. The additional power procured for 45 minutes will disturb the planned demand-supply balance planned by the licensee in the next three time blocks (i.e. 45 minutes). Even in the hourly market being proposed to be implemented by the Hon'ble Commission, the gate closing is six time blocks in advance. Thus, the distribution licensee will be penalized for deviations beyond his control whereas no market product is available to him to facilitate change sign of deviation for one time block after six time blocks under the existing regulations issued by the Hon'ble Commission.

- 6.4 If a distribution licensee is under-drawing continuously for six time blocks (i.e. 1.5 hours) by small quantum due to reason beyond its control, then as per the Impugned Regulations, it is required to overdraw in the seventh time block even if the grid frequency is lower than the permissible limit of 49.85 Hz. This may not be practically possible for a distribution licensee since its load is dependent on its consumers. This will also not be in consonance with the provisions of the Grid Code.
- 6.5 Similarly, in case a distribution licensee is overdrawing by small quantum continuously for six time blocks due to reasons beyond its control and in the seventh block, if its drawal is more than schedule, it has to carry out load shedding even if the grid frequency is on the higher side, such as above 50.05 Hz. Since the schedule is drawn at 50.00 Hz, at any higher frequency, the actual load of the distribution licensee will also increase due to increase in motor load which is beyond its control. Further, at higher frequency, the distribution licensee will be seen as overdrawing even if its demand is slightly less than or equal to drawal schedule at 50.00 Hz. The distribution licensee will be required to carry out load shedding to comply with the sign changing requirement under Regulation 7.10 of the Impugned Regulations for no fault of its own as it alone cannot control grid frequency.

- 6.6 In real time, the drawals/ injections monitored and corrective action taken is based on the real time SCADA data which differs from the Special Energy Meters data based on which the deviation is measured for imposing additional charge. Such difference is approximately 3%. Thus, some margin is required to be provided for positive and negative deviation for which there should not be any requirement of sign change to avert levy of additional charges for no fault of the licensee.

II. STATEMENT OF COMMENTS AND SUGGESTIONS RELATING TO DRAFT REGULATIONS

- (i) It is submitted that the order dated 27.03.2019 passed by the Hon'ble High Court of Delhi in the batch of matters challenging the legality, validity and vires of the Impugned Regulations directed the Hon'ble Commission to consider the representations submitted by petitioners as well as stakeholders with respect to the submissions articulated by the petitioners on operation of the Impugned Regulations and complete such task within three weeks therefrom. The relevant portions of the said order dated 27.03.2019 have been extracted below as follows:

“ ...

3. Learned counsel for the petitioners point out that other issues pertaining to the operation of Clauses 7(1), 7(10) and 7(11a) are also causing problem. In these circumstances, apart from considering the existing representations requesting for review of Regulation 7(10), the Commission shall look into other representations with respect to the submissions articulated regarding other amended Regulations including Clause 7(11a). The Commission is directed to complete the task at the earliest, preferably within three weeks. In case, any petitioner wishes to approach the Commission, it shall do so within a week with a comprehensive representation.

... ”

- (ii) It is submitted that the Hon'ble Commission has, however, endeavoured to address the concerns raised by the petitioners and various stakeholders in their respective representations by engaging in a *suo motu* exercise and proposing the Draft Regulations, which amends the Principal Regulations.
- (iii) It is submitted that Regulation 7.10 of the Impugned Regulations presently stands as under:

“7. Limits on Deviation volume and consequences of crossing limits

(10) In the event of sustained deviation from schedule in one direction (positive or negative) by any regional entity (buyer or seller), such regional

entity shall have to change sign of their deviation from schedule, at least once, after every 6 time blocks. To illustrate, if a regional entity has positive deviation from schedule from 07.30 hrs to 09.00hrs, sign of its deviation from schedule shall be changed in the 7th time block i.e. 09.00hrs to 09.15hrs from positive to negative or vice versa as the case may be.

Provided that violation of the requirement under this clause shall attract an additional charge of 20% on the daily base DSM payable / receivable as the case may be.

- (iv) The Draft Regulations propose to amend Regulation 7.10 of the Principal Regulations as follows:

“7. Limits on Deviation volume and consequences of crossing limits

In the event of sustained deviation from schedule in one direction (positive or negative) by any regional entity (buyer or seller), such entity shall correct its position in the manner as specified under clauses (a) and (b) of this Regulation.

- (a) *Up to 31.03.2020, if the sustained deviation from schedule continues for 12 time blocks, the regional entity (buyer or seller), shall correct its position by making the sign of its deviation from schedule changed or by remaining in the range of +/- 10 MW with reference to its schedule, at least once, latest by 13th time block.*

Provided that each violation of the requirement under this clause shall attract an additional charge of 10% on the time block DSM payable/ receivable as the case may be.

- (b) *From 01.04.2020, if the sustained deviation from schedule continues for 6 time blocks, the regional entity (buyer or seller), shall correct its position, by making the sign of its deviation from schedule changed or by remaining in the range of +/- 10 MW with reference to its schedule, at least once, latest by 7th time block.*

Provided that violation of the requirement under this clause shall attract an additional charge as specified in the table below:

<i>No. of violations in a Day</i>	<i>Additional Charge Payable</i>
<i>From first to fifth violation</i>	<i>For each violation, an additional charge @ 3% of daily base DSM payable / receivable</i>

<i>From sixth to tenth violation</i>	<i>For each violation, an additional charge @ 5% of daily base DSM payable / receivable</i>
<i>From eleventh violation onwards</i>	<i>For each violation, an additional charge @ 10% of daily base DSM payable / receivable</i>

Provided further that counting of number of sign change violations under clauses (a) & (b) of this Regulation shall start afresh at 00.00 Hrs. for each day.

Provided also that payment of additional charge for failure to adhere to sign change requirement as specified under clauses (a) & (b) of this regulation shall

not be applicable to:

- a. renewable energy generators which are regional entities*
- b. run of river projects without pondage*
- c. any infirm injection of power by a generating station prior to CoD of a unit during testing and commissioning activities, in accordance with the Connectivity Regulations.*
- d. any drawal of power by a generating station for the start-up activities of a unit.*
- e. any inter-regional deviations.*
- f. forced outage of a generating station in case of collective transactions on Power Exchanges.*

Explanation:- *For the purpose of this Regulation, sustained deviation means continuous deviation outside the range of +/- 10 MW from schedule, such range being a subset of the volume limit as specified in Regulation 7(1) & 7(2)). In other words, if the deviation is brought within the range of +/- 10MW or it remains within the range of +/- 10MW, it will not be considered as sustained deviation.*

Illustrations:-

- i. Illustration to 7(10)(a):-,*
a regional entity having a sustained deviation from time blocks t_1 to t_{12} , should correct its position either by changing the sign of its deviation (from positive to negative or negative to positive as the case may be) or come back in the range of +/- 10 MW with reference to its schedule latest by the end of time block t_{13} . In case, such sign change does not take place or it fails to come back

in the range of +/- 10 MW by the end of time block t_{13} , but such correction of position takes place from time block t_{14} up to time block t_{24} , then the additional charge shall be levied equivalent to one violation. The above violation shall attract an additional charge at the rate of 10% of the time block DSM for t_{13} . Further, in case, sign change does not take place or it fails to come back to the range as aforesaid even latest by the end of t_{25} , but correction of position takes place from time block t_{26} up to time block t_{36} , then the additional charge shall be levied equivalent to two violations. The above violation shall attract an additional charge at the rate of 10% of the time block DSM for t_{13} & t_{25} , and so on.

ii. Illustration to 7(10)(b):-,

After 01.04.2020, if a regional entity having a sustained deviation from time blocks t_1 to t_7 , should correct its position either by changing the sign of its deviation (from positive to negative or negative to positive as the case may be) or come back in the range of +/- 10 MW with reference to its schedule latest by the end of time block t_7 . In case, such sign change does not take place or it fails to come back in the aforesaid range by the end of time block t_7 , but such correction of position takes place from time block t_8 up to time block t_{12} , then additional charge shall be levied equivalent to one violation. Further, in case, sign change does not take place or it fails to come back in the range as aforesaid latest by the end of t_{13} , but correction in position takes place from time block t_{14} up to time block t_{18} , then the additional charge shall be levied for two violations and so on.

The additional charge shall be at the rate as specified in clause (b) of this Regulation.”

- (v) It is submitted that vide the proposed amendment to Regulation 7.10 of the Principal Regulations, *inter alia*, the requirement for sign change has been increased from at least once in every 6 time blocks (as provided in Regulation 7.10 of the Impugned Regulations) to 12 time blocks, up to March 2020. Further, a band of +10 MW to -10 MW for deviations has been introduced within which no sign change will be required. In addition, penalty/ additional charge for each violation of the sign change requirement has been reduced to 10% on the time block DSM payable/ receivable as the case may be from 20% on daily base DSM payable/receivable. It is submitted that, however, from April 2020 onwards, mandatory sign change shall be required at least once in every 6 time blocks and all additional charges will be based on daily base DSM instead of time block DSM.
- (vi) It is humbly submitted that the Draft Regulations, as well as the Explanatory Memorandum thereto, fails to address any of the concerns raised by CESC with respect to implementation of Regulation 7.10 of the Impugned Regulations vide the Representation submitted to the Hon'ble Commission, as has been detailed below:

1. **Draft Regulations fail to address concern that no forecasting technique available is 100% accurate, and imposes additional charge even in the absence of such 100% accurate forecasting tool:**

- 1.1 The Hon'ble Commission has stated that the Impugned Regulations were issued to put in place a system of commercial incentives for the utilities to carry out appropriate load forecasting well in advance. The Hon'ble Commission has further stated the following in the Explanatory Memorandum to the Draft Regulations:

“2.9 Further, the Commission is of the view that great progress has been made in the load forecasting tools and techniques in the developed power markets as it plays vital role in grid management system. Precise load forecasting enables an electrical utility to create proper unit commitment, plan reserves and helps system operator to secure grid operation. In regard to the time lag in power procurement in the contingency market, the Commission reiterates the need for maintaining reserves to meet contingent requirement.”

(Emphasis supplied)

- 1.2 It is submitted that the Hon'ble Commission has repeatedly harped on the requirement of having better forecasting techniques by distribution utilities. It is further submitted that the Hon'ble Commission has made a conclusive statement about the technological advancements made in the field of load forecasting without conducting any market survey/ study about the accuracy of load forecasting techniques in power markets. It is humbly submitted that there is no forecasting technique/ infrastructure available presently which is 100% accurate as it is technically impossible to forecast demand accurately.
- 1.3 It is submitted that CESC has carried out extensive studies with regard to load forecasting and has availed the services of some of the best technical consultants in this field internationally for working out load forecasting schedules for them. However, even though such forecasting techniques used by CESC are quite developed and sophisticated, there is still an error margin of around 2-3%. It is submitted that in spite of the best efforts and the significant investments made by CESC, such forecasting instruments cannot give a 100% accurate forecast.
- 1.4 It is submitted that therefore, no forecasting technique available is 100% accurate, in spite of availability of sophisticated methods of forecasting, since demand is a reflection of consumer behaviour which is entirely unpredictable. Expecting distribution licensees to conduct 100% accurate forecasting for avoidance of any form of deviation under Regulation 7.10 of the Draft Regulations, and to penalize them for stray instances of deviation, is thus an onerous requirement.

- 1.5 It is further submitted that the Hon'ble Commission has equated load forecasting tools and techniques used in “developed power markets” to those in India, wherein the power market is still underdeveloped, and is yet to achieve real time sale of power.
- 1.6 It is further submitted that though the Hon'ble Commission has endeavoured to take note of this issue and accordingly introduced a band of +10 MW to -10 MW for deviations under Regulation 7.10 of the Draft Regulations, within which no sign change is required to be made, such band is too narrow for all practical purposes. It is submitted that such narrow frequency band of +/- 10 MW deviation is tantamount to straightjacketing for all kinds of distribution licensees and is thus impractical and arbitrary. For instance, no differentiation has been made in the said Regulation between a 100 MW system or a 1000 MW system, and thus even a 1000 MW will be liable to pay penalty for a minor deviation crossing the +/- 10 MW frequency band. In light of the above, Regulation 7.10 of the Draft Regulations can also be said to be quantum-agnostic.
- 1.7 In light of the above, it is submitted that the suggestion of the Hon'ble Commission to develop sophisticated forecasting techniques to avoid a deviation from the schedule is not founded on any rational justification and is inconsistent with the very meaning of forecasting. Therefore, concern raised by CESC relating to absence of 100% accurate forecasting tool as raised in the Representation [*refer to para I(iii)(1) above*] has not been addressed by the Hon'ble Commission in the Draft Regulations.

2. Draft Regulations fail to address concern that requirement of sign change is frequency agnostic, and thus puts the safety of the grid to grave risk:

- 2.1 It is submitted that the requirement of sign change, after every 12 time blocks up to March 2020 and after 6 time blocks after March 2020, under Regulation 7.10 of the Draft Regulations has been proposed without reference to the prevailing frequency and is therefore frequency-agnostic, i.e. unrelated to the existing frequency levels of the grid at the time of required compliance by a licensee.
- 2.2 It is submitted that the Draft Regulations require change of sign by a distribution licensee from under-drawal to over-drawal even when the frequency is at a low level, and from over-drawal to under-drawal even when the frequency is at a high level, thereby leading to a situation of grid instability, and exposing the grid to grave risk.
- 2.3 It is submitted that the aforesaid issue of sign change requirement being frequency-agnostic remains whether such sign change is mandated to be done after 6 time blocks or after 12 time blocks. The requirement of reducing negative deviation during high frequency and increasing positive deviation during low frequency remains, which goes against the basic principle of Availability Based Tariff mechanism. This is inconsistent with the very objective of the extant regulations and the Grid Code, and to such extent is arbitrary in approach.

- 2.4 In light of the above, it is submitted that the concern raised by CESC relating to requirement of sign change being frequency-agnostic as raised in the Representation [*refer to para I(iii)(2) above*] has not been addressed by the Hon'ble Commission in the Draft Regulations.

3. Draft Regulations fail to address the following concerns already raised in the Representation:

- 3.1 The following concerns, which have already been raised in the Representation, have not been addressed by the Hon'ble Commission in the Draft Regulations as follows:

S. No.	Concerns raised by CESC in the Representation	Whether such concerns have been addressed/ not addressed in the Draft Regulations, and Explanatory Memorandum thereto
1.	<p>Inconsistency with other regulations [<i>Refer to Para I(iii)(4.1)(c) and Para (I)(iii)(5) above</i>]:</p> <p>(a) <u>Violation of RGMO/ FGMO requirement provided under Regulation 5.2(f) of the Grid Code</u>: Imposition of penalty or the forceful implementation of a sign change requirement requires generating companies to act in a manner inconsistent with the RGMO/ FGMO restrictions under the Grid Code.</p> <p>(b) <u>Inconsistency with Regulation 7.4 of the Principal Regulations</u>: When a distribution licensee changes its sign, i.e. reverses from over-drawal to under-drawal in order to not to violate the sign change stipulation envisaged under Regulation 7.10 of the Impugned Regulations, and when the grid frequency is 50.05 Hz or above, such distribution licensee will have to pay an additional charge for deviation</p>	<p>(a) Not addressed</p> <p>(b) Not addressed. Vide amendment to Regulation 7.4 of the Principal Regulations through the Draft Regulations, the Hon'ble Commission has only revised upper limit of grid frequency to "50.10 Hz and above" and introduced payment of additional charges for</p>

	<p>as per Regulation 7.4 of the Principal Regulations. Thus, in order to comply with one provision of the Impugned Regulations, the entity (either distribution licensee or generating station) will attract penalty under another provision of the Principal Regulations.</p>	<p>deviation “<i>at the rates equivalent to charges of deviation corresponding to the grid frequency of ‘below 50.01 Hz but not below 50.0 Hz’, or cap rate for deviation of 303.04 Paise/kWh whichever is lower</i>”. The inherent inconsistency between Regulation 7.10 of the Impugned Regulations and Regulation 7.4 of the Principal Regulations has not been addressed.</p>
2.	<p>Distribution licensees have to resort to load shedding just to satisfy the sign change stipulation even when there is no danger to grid security.</p>	<p>Not addressed.</p>
3.	<p>Lack of a mature short-term market and regulatory regime where power is available in real time:</p> <p>The power market in India is still underdeveloped and is yet to achieve real time sale of power, to provide necessary source of power for compliance of the Impugned Regulations.</p>	<p>Not addressed. The Hon'ble Commission has stated the following in the Explanatory Memorandum to the Draft Regulations:</p> <p><i>“2.18 The Commission observes that the frequency band in the countries of Europe and United States of America have been fixed in a very narrow range in order to ensure supply of quality power to the consumers and for the protection of the generating stations, transmissions systems, electrical equipment and appliances.”</i></p> <p>It is important to highlight that</p>

		<p>the factors conducive to fixing of narrow frequency band, i.e. availability of real-time power, are prevalent in Europe and the United States but are not present in India. It is submitted that the Hon'ble Commission has made a conclusive statement relating to fixation of narrow frequency band in developed power markets in comparison to India, without providing any supporting material/ survey relating to non-availability of real-time power in India.</p> <p>It is further submitted that the regulations relating to operation of ancillary services as well as power markets, which would enable the introduction of a real time market in India and real time sale of power to provide necessary source of power for compliance of the Draft Regulations, are still at the draft stage and will take a considerable amount of time to get finalized and notified.</p>
4.	The distribution licensees have no tool to increase their demand in order to effect positive deviation (overdrawal) from underdrawal, as demand is a reflection of consumer behaviour not under their control.	Not addressed.
5.	Lack of availability of real time contingency reserve [<i>Refer to Para I(iii)(4.1) above</i>]	Not addressed. The Hon'ble Commission has merely stated the following in the Explanatory Memorandum to the Draft Regulations without

		<p>any regard to the concerns raised by CESC in its Representation:</p> <p>“2.9...</p> <p><i>In regard to the time lag in power procurement in the contingency market, the Commission reiterates the need for maintaining reserves to meet contingent requirement. The utility needs to plan its power procurement well in advance which should be a mix of contracts on long-term, medium-term and short-term basis along with appropriate reserves to meet the last minute contingency demand. The Commission believes that a distribution utility is required to maintain reserves to meet any contingency, in the same manner as a system operator maintains reserves as a contingency against grid disturbance.”</i></p>
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- (vii) It is submitted that the Hon'ble Commission has thus made several conclusive statements in the Explanatory Memorandum to the Draft Regulations without any supporting material/ market survey/ data to substantiate such claims. Unless the Hon'ble Commission makes available to the stakeholders the supporting material/ studies on the basis of which such conclusive statements have been made, CESC will not be in a position to even address/ counter such conclusive statements.
- (viii) It is humbly submitted that therefore the Draft Regulations issued by the Hon'ble Commission violate, and are contrary to, the aforesaid order dated 27.03.2019 passed by the Hon'ble High Court of Delhi in letter and in spirit, as has been detailed above.

- (ix) It is submitted that, however, the Hon'ble Commission has not provided the necessary enablers/ tools to assist distribution licensees in complying with the Draft Regulations. It is submitted that the market is currently not in a state of readiness to implement such Draft Regulations due to non-availability of, *inter alia*, (a) 100% accurate demand forecasting tool; (b) mature short-term market and regulatory regime where power is available in real time; and (c) immediate ramping up/ down of generating station, thus constraining licensees to comply when it is impossible, impracticable and onerous to do so; imposing financial burden even when it is impossible to comply with the Draft Regulations; and compelling them to not comply with other regulations in the process.
- (x) It is humbly submitted that the concerns raised by CESC in the Representation had found merit with the Hon'ble Commission and therefore the time blocks for sign change requirement were increased from 6 to 12 in the Draft Regulations. It is humbly submitted that the Hon'ble Commission has categorically stated the following in the Explanatory Memorandum to the Draft Regulations:

“2.14 ...

As such, it is expected that such measures shall be put in place by all concerned by 2020, by which time the sign change requirement of six time blocks shall be implemented.”

It is respectfully submitted that, however, distribution licensees cannot be compelled to comply with the Draft Regulations on the mere assurance/ expectation of the Hon'ble Commission that all measures/ tools [*refer to para II(ix) above*] shall be put in place by March 2020, after which the sign change requirement within 6 time blocks shall be implemented and increased penalty shall be levied. It is reiterated that the regulations which would enable real time sale of power in India are still at the draft stage; therefore, even the groundwork for putting in place all tools to enable distribution licensees to comply with the Draft Regulations after March 2020 has not been laid, and thus complying with the Draft Regulations after March 2020 will be impracticable and onerous.

- (xi) It is submitted that the Hon'ble Commission has stated in the Explanatory Memorandum to the Draft Regulations, the following:

“2.10 The security of the grid is of paramount importance and compliance to grid standards, IEGC and all relevant regulations of the Commission are extremely essential.”

(Emphasis supplied)

We humbly submit that the *volte-face* in the position of the Hon'ble Commission by decreasing time blocks for sign change from 12 to 6 after March 2020 vide the Draft Regulations is not only onerous but impossible to carry out under the present

regulatory dispensation and the prevailing market scenario as detailed above. The change in the number of time blocks and levy of additional charge for each violation of sign change stipulation in the Draft Regulations subsequent to March 2020 is without due regard to the impact thereof on the security of the grid or the possibility of complying with such requirement of sign change within 6 time blocks by any utility in the present regulatory regime. Therefore, Regulation 7.10 of the Impugned Regulations appears to be contrary to the stated objective of the Electricity Act, 2003 and against the policy of the governments, in addition to being detrimental to consumer interest.

- (xii) We request the Hon'ble Commission to conduct an extensive market survey to get a first-hand on-ground assessment of: (a) demand forecasting techniques and the extent to which they are accurate; (b) operation of real-time power markets; and (c) factors which lead to fixing of frequency band in narrow range, in other jurisdictions. This is a necessary pre-cursor to the effective and successful implementation of the Draft Regulations in a consistent and seamless manner.
- (xiii) In light of the above, we humbly request the Hon'ble Commission to revisit Regulation 7.10 of the Draft Regulations vide which number of time blocks for carrying out a sign change is proposed to be increased from 6 time blocks to 12 time blocks, only up to March 2020.
- (xiv) We seek your assistance in navigating the regulatory parameters and impediments to arrive at a solution that is conducive to the market, the stakeholders and the consumers, and implore you to revisit Regulation 7.10 of the Draft Regulations in light of the issues detailed above.

This letter is without prejudice to our rights, remedies, and contentions as available in law and pending proceedings before any court of law.

Thanking you.

Yours sincerely,



Executive Director

(Regulatory Affairs & Corporate Services)