

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

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Office of the
Chief Engineer (Elec.),
State Load Dispatch Centre
28, Race Course Road.
Bengaluru - 560 009

No.CEE/SLDC/SEE/EE/ 7766-68

Date: 27/7/18

To,

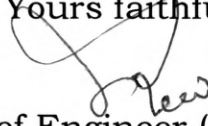
The Secretary,
CENTRAL ELECTRICITY REGULATORY COMMISSION,
3rd and 4th Floor, Chandernagore Building, 36, Janpath,
NEW DELHI - 110001

Sir,

SUB: Submission of Comments on the draft CEA(Deviation Settlement Mechanism and related matters) (Fourth Amendment) regulations, 2018-Reg.

Adverting to the above subject, here in enclosed the clause wise comments/ Suggestions on the draft CEA (Deviation Settlement Mechanism and related matters) (Fourth Amendment) Regulations, 2018 for kind consideration and orders.

Yours faithfully


Chief Engineer (Electy)
SLDC, KPTCL, Bangalore.

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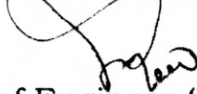
The Secretary,
CENTRAL ELECTRICITY REGULATORY COMMISSION,
3rd and 4th Floor, Chanderlok Building, 36, Janpath,
NEW DELHI - 110001

Sir,

SUB: Submission of Comments on the draft CEA(Deviation Settlement Mechanism and related matters) (Fourth Amendment) regulations, 2018-Reg.

Adverting to the above subject, here in enclosed the clause wise comments/ Suggestions on the draft CEA (Deviation Settlement Mechanism and related matters) (Fourth Amendment) Regulations, 2018 for kind consideration and orders.

Yours faithfully


Chief Engineer (Electy)
SLDC, KPTCL, Bangalore.

Copy to:

1. PS to MD KPTCL for information and to place the same before Hon'ble Managing Director, KPTCL, Kaveri Bhavan, Bangalore.
2. TA to DT KPTCL for information and to place before Director Transmission, KPTCL, Kaveri Bhavan, Bangalore
3. OC/ MF

Comments/Suggestions to the Draft amendment issued by the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2014 (hereinafter referred to as the "Principal Regulations"), on 29-06-2018.

1. Short Title and Comments

- 1.1 These regulations may be called the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) (Fourth Amendment) Regulations, 2018.
- 1.2 These regulations shall come into force with effect from 01.09.2018 or on such date as the Commission may notify.

NO Comments

2. Amendment to Regulation 2 of the Principal Regulations:

- 2.1 The following sub-clause shall be added after sub-clause (c) of clause (1) of Regulation 2 of the Principal Regulations:

“(ca) “Area Clearing Price (ACP)” means the price of 15-minute time block electricity contract established on the Exchange arrived at after considering all valid purchase and sale bids in particular area(s) determined after market splitting, i.e. dividing the market across constrained transmission corridor(s).”

NO Comments

- 2.2 The following sub-clause shall be added after sub-clause (g) of clause (1) of Regulation 2 of the Principal Regulations:
-

“(ga) **“Day Ahead Market (DAM)”** means a market where physical delivery of electricity occurs on the next day (T+1) of the date of transaction

(T) and is governed by the Central Electricity Regulatory Commission (Power Market) Regulations, 2010 (as amended from time to time), Rules, Bye-Laws as approved by the Commission.”

NO Comments

3. Amendment of Regulation 5 (Charges for Deviations) of the Principal Regulations:

3.1 The table along with the note in parenthesis below the table in clause (1) of Regulation 5 of the Principal Regulations shall be substituted by the following;

Average Frequency of the time block (Hz)		Charges for Deviation (Paise/kWh)
Below	Not Below	
	50.05	0.0
50.05	50.04	Slope determined by joining the price at Not Below 50.05 Hz and identified price at 50.00 Hz, and as detailed in the note below this Regulation
50.04	50.03	
50.03	50.02	
50.02	50.01	
50.01	50.00	Daily average Area Clearing Price discovered in the Day Ahead Market segment of power exchange
50.00	49.99	Slope determined by joining the price identified at 50.00 Hz and price at below 49.85 Hz, and as detailed in the note below this Regulation
49.99	49.98	
49.98	49.97	
49.97	49.96	
49.96	49.95	
49.95	49.94	
49.94	49.93	
49.93	49.92	
49.92	49.91	

49.91	49.90	
49.90	49.89	
49.89	49.88	
49.88	49.87	
49.87	49.86	
49.86	49.85	
49.85		800.00

Note:-

- i. *The Deviation Settlement Mechanism (DSM) rate vector will have a dynamic slope determined by joining the identified price points at 50 Hz. (daily average ACP), frequency of 49.85 Hz (Rs. 8 per unit) and 50.05 Hz (zero) on a daily basis.*
- ii. *The maximum ceiling limit applicable for average Daily ACP discovered in the DAM segment of Power Exchange at 50.00 Hz shall be 800 Paise/kWh.*
- iii. *Charges for deviation for each 0.01 Hz step shall be equivalent to the Slope determined by joining the price at 'Not below 50.05 Hz' and 'identified price at 50.00 Hz' in the frequency range of 50.05-50.00 Hz, and to the Slope determined by joining the 'price identified at 50.00 Hz' and price at 'below 49.85 Hz' in frequency range 'below 50 Hz' to 'below 49.85 Hz'.*
- iv. *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 taken into consideration for linking to the DSM price vector. If there is no single Power Exchange having a market share 80% or more, the weighted average day-ahead price shall be used for linking to the DSM price.*
- v. *Daily average Area Clearing Prices (ACP) in the day-ahead market shall be used as the basis for market linked DSM price at 50 Hz.*
- vi. *Deviation price shall be rounded off to nearest two decimal places."*

NO Comments

3.2 In sub-clause (i) of Proviso to clause (1) of Regulation 5 of the Principal Regulations the words "Cap Rate of Rs. 303.04 Paise/kWh as per the

methodology" shall be substituted by the words "Cap Rate as per the methodology".

NO Comments

- 3.3 The sub-clause (b) of clause (2) of Regulations 5 of the Principal Regulations shall be substituted by the following:

"(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".

NO Comments

- 3.4 In sub-clause (c) of clause (2) of Regulation 5 of the Principal Regulations, the words "below 49.70 Hz" shall be substituted by the words "below 49.85 Hz".

NO Comments

- 3.5 The sub-clause (d) of clause (2) of Regulation 5 of the Principal Regulations shall be substituted by the following;

"(d) The Charge for Deviation at grid frequency 'below 49.85 Hz' shall be 800 Paise/KWh."

NO Comments

- 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".

NO Comments

- 3.7 The clause (4) of Regulation 5 of the Principal Regulations shall be substituted by the following:

"(4) The charges for deviation linked to Day Ahead Market prices shall be

reviewed by the Commission after six months from the date of notification of these amendments.

NO Comments

- 3.8 In clause (5) of Regulation 5 of the Principal Regulations, the words "RLNG `8.24 / kWh sent out" shall be substituted by "*RLNG ` 8.00 / kWh sent out*".

NO Comments

4. Amendment of Regulation 7 (Limits on Deviation volume and consequences of crossing limits) of the Principal Regulation:

- 4.1 In clause (1) of Regulation 7 of the Principal Regulations, the words "49.70 Hz and above and below 50.10 Hz" shall be substituted by the words "*49.85 Hz and above and below 50.05 Hz*".

Comments: "The words 49.70 Hz and above and below 50.10 Hz" shall be substituted by the words "*49.85 Hz and above and below 50.10 Hz*" for Renewable rich State with RE (combined installed capacity of Wind and Solar) installed capacity of more than 9000 MW and also the deviation limit for over drawal or under drawal shall be 500MW.

- 4.2 In first proviso to clause (1) of Regulation 7 of the Principal Regulations, the words "49.70 Hz and above and below 50.10 Hz" shall be substituted by the words "*49.85 Hz and above and below 50.05 Hz*".

Comments: "The words 49.70 Hz and above and below 50.10 Hz" shall be substituted by the words "*49.85 Hz and above and below 50.10 Hz*" for Renewable rich State with RE(combined installed capacity of Wind and Solar) installed capacity of more than 9000 MW and also the deviation limit for over drawal or under drawal shall be 500MW.

- 4.3 In second proviso to clause (1) of Regulation 7 of the Principal Regulations, the words "below 49.70 Hz" shall be substituted by the words "*below 49.85 Hz*" and the words "50.10 Hz and above" shall be substituted by the words "*50.05 Hz and above*".

Comments: The words below 49.70 Hz shall be substituted by the words below *49.85 Hz and the words 50.10 Hz and above shall be retained* for Renewable rich State with RE(combined installed capacity of Wind and Solar) installed capacity of more than 9000 MW and also the deviation limit for over drawal or under drawal shall be 500MW.

- 4.4 After the existing proviso to clause (1) of Regulation 7 of the Principal Regulations, a new proviso shall be added as under:

"Provided also that the total deviation from schedule in energy terms during a day shall not be in excess of 3% of the total schedule for the drawee entities and 1% for the generators and additional charge of 20% of the daily base DSM payable / receivable shall be applicable in case of said violation."

Comments: This new proviso shall be as under;

" For Renewable rich State with RE (combined installed capacity of Wind and Solar) installed capacity of more than 9000 MW the *total deviation from schedule in energy terms during a day shall not be in excess of 15% of the total schedule (excluding STOA transactions) or 12 MU whichever is higher for the drawee entities and 1% for the generators. And additional charge of 20% of the daily base DSM payable / receivable shall not be applicable in case of said violation for the Renewable rich State with RE(Solar and Wind) installed capacity of more than 9000 MW."* This is to accommodate the variation in RE generation as 15% deviation is permitted for wind and Solar plants and there is no deviation charges if the deviation is within the specified limits of + or – 15%, as per the State Commission (Forecasting, scheduling, Deviation settlement and related matters for Wind and Solar Generation sources) Regulations 2015 (https://www.karnataka.gov.in/kerc/Regulations/Regulations/KERC_Forecasting_Scheduling_Regulation_2015.pdf).

- 4.5 In clause (2) of Regulation 7 of the Principal Regulations, the words "49.70 Hz or above and below 50.10 Hz" shall be substituted by the words "49.85 Hz or above and below 50.05 Hz".

No Comments as it pertains to seller.

- 4.6 In Proviso (i) to sub-clause (b) to clause (2) of Regulation 7 of the Principal Regulations, the words "49.70 Hz or above and below 50.10 Hz" shall be substituted by the words "49.85 Hz or above and below 50.05 Hz".

No Comments as it pertains to seller.

- 4.7 In Proviso (iii) to sub-clause (b) to clause (2) of Regulation 7 of the Principal Regulations, the words "below 49.70 Hz" shall be substituted by the words "below 49.85 Hz" and the words "50.10 Hz and above" shall be substituted by the words "50.05 Hz and above".

No Comments as it pertains to seller.

4.8 In Proviso (v) to sub-clause (b) to clause (2) of Regulation 7 of the Principal Regulations, the words "49.70 Hz and above" shall be substituted by the words "49.85 Hz and above".

No Comments as it pertains to seller.

4.9 In clause (3) of Regulation 7 of the Principal Regulations, the words "49.70 Hz and above" shall be substituted by the words "49.85 Hz and above".

No Comments

4.10 In Proviso (i) to clause (3) of Regulation 7 of the Principal Regulations, the words "49.70 Hz and above" shall be substituted by the words "49.85 Hz and above".

No Comments

4.11 In Table-II in clause (3) of Regulation 7 of the Principal Regulations, the words "Cap Rate for Deviation of 303.04 Paise / kWh" wherever they are appearing, shall be substituted by the words "Cap Rate being equivalent to the energy charges as billed for the previous month".

No Comments

4.12 In clause (4) of Regulation 7 of the Principal Regulations, the words "50.10 Hz and above" shall be substituted by the words "50.05 Hz and above".

Comments: The limit of 50.10 Hz and above shall be retained and there shall be no additional charge for deviation for under drawal up to 500MW by a buyer, if the buyer is a Renewable rich State with RE (combined installed capacity of Wind and Solar) installed capacity of more than 9000 MW. *This is to accommodate the variation in RE generation as 15% deviation is permitted for wind and Solar plants and there is no deviation charges if the deviation is within the specified limits of + or - 15%, as per the State Commission (Forecasting, scheduling, Deviation settlement and related matters for Wind and Solar Generation sources) Regulations 2015 (www.karnataka.gov.in/kerc/Regulations/Regulations/KERC_Forecasting_Scheduling_Regulation_2015).*

4.13 In clause (6) of Regulation 7 of the Principal Regulations, the words "below 49.70 Hz in accordance with the methodology specified in clause (8) of this regulation and the same shall be equivalent to 100% of the Charge for Deviation of 824.04 Paise / kWh corresponding to the grid frequency of „below 49.70 Hz" " shall be substituted by the words "below 49.85 Hz in accordance with the methodology specified in clause (8) of this regulation and

the same shall be equivalent to 100% of the Charge for Deviation of 800 Paise / kWh corresponding to the grid frequency of „below 49.85 Hz“ .

No Comments

4.14 In proviso to clause (6) of Regulation 7 of the Principal Regulations, the words “below 49.70 Hz” shall be substituted by the words “*below 49.85 Hz*” and the words “Cap Rate for Deviations of 303.04 Paise / kWh” shall be substituted by the words “*Cap Rate being equivalent to the energy charges as billed for the previous month*”.

No Comments

4.15 In clause (7) of Regulation 7 of the Principal Regulations, the words “49.70 Hz and above” shall be substituted by the words “*49.85 Hz and above*”.

No Comments

4.16 In clause (8) of Regulation 7 of the Principal Regulations, the words “below 49.70 Hz” shall be substituted by the words “*below 49.85 Hz*”.

No Comments

4.17 In proviso to clause (8) of Regulation 7 of the Principal Regulations, the words “below 49.70 Hz” shall be substituted by the words “*below 49.85 Hz*”.

No Comments

4.18 In clause (9) of Regulation 7 of the Principal Regulations, the words “49.70 Hz and above” shall be substituted by the words “*49.85 Hz and above*”.

No Comments

4.19 Clause (10) of Regulation 7 of the Principal Regulations shall be substituted as under:

“In the event of sustained deviation from schedule in one direction (positive or negative) by any regional entity, such regional entity (buyer or seller) shall have to make sign of their deviation from schedule changed, at least once, after every 6 time blocks. To illustrate, if a regional entity has positive deviation from schedule from 07.30 hrs to 09.00 hrs, sign of its deviation from schedule shall be changed in the 7th time block i.e. 09.00 hrs to 09.15 hrs from positive to negative or negative to positive as the case may be.

Provided that violation of the requirement under this clause shall attract an additional surcharge of 20% on the daily base DSM payable / receivable as the

case may be.”

Comments: “In the event of sustained deviation from schedule in one direction (positive or negative) by any regional entity, such regional entity (buyer or seller) shall have to make sign of their deviation from schedule changed, at least once, after every 6 time blocks. Provided that violation of the requirement under this clause shall attract an additional surcharge of 20% on the daily base DSM payable / receivable as the case may be” **shall not be imposed** for Renewable rich State with RE(combined installed capacity of Wind and Solar) installed capacity of more than 9000 MW, which is to accommodate the variation in RE generation as 15% deviation is permitted for wind and Solar plants and there is no deviation charges if the deviation is within the specified limits of + or – 15%, as per the State Commission (Forecasting, scheduling, Deviation settlement and related matters for Wind and Solar Generation sources) Regulations 2015 (www.karnataka.gov.in/kerc/Regulations/Regulations/KERC_Forecasting_Scheduling_Regulation_2015).

5. Amendment of Annexure-I (Methodologies for the computation of Charges of Deviation for each regional entity for crossing the volume limits specified for the over-drawal / under-injection by Buyer / Seller [except Renewable Rich State]) of the Principal Regulation:

5.1 In clause 1 of Annexure-I to the Principal Regulations, the words “49.70 Hz and above” shall be substituted by the words “49.85 Hz and above”.

No Comments

5.2 In Note under Illustration B in clause 1(B)(iii) of Annexure-I to the Principal Regulations, the words “49.70 Hz and above” shall be substituted by the words “49.85 Hz and above”.

No Comments

5.3 In Note under Illustration B in clause 1(B)(iii) of Annexure-I to the Principal Regulations, the words “Cap Rate for Deviations of 303.04 Paise / kWh” shall be substituted by the words “Cap Rate being equivalent to the energy charges as billed for the previous month”.

No Comments

5.4 In clause 2 of Annexure-I to the Principal Regulations, the words “below 49.70 Hz” shall be substituted by the words “below 49.85 Hz”.

No Comments

5.5 In clause 2 of Annexure-I to the Principal Regulations, the words "824.04 Paise / kWh" shall be substituted by the words "*800 Paise / kWh*".

No Comments

5.6 In clause 2 of Annexure-I to the Principal Regulations, the words "cap rate for deviations of 303.04 Paise / kWh" shall be substituted by the words "*Cap Rate as specified in clause 5(3) of these Regulations*".

No Comments

5.7 In Note under clause 2 of Annexure-I to the Principal Regulations, the words "below 49.70 Hz" shall be substituted by the words "*below 49.85 Hz*".

No Comments

6. Amendment of Annexure-I-A (Methodologies for the computation of Charges of Deviation applicable to Renewable Rich States for crossing the volume limits specified for the over-drawal / under-injection) of the Principal Regulation:

6.1 In clause 2 of Annexure-I-A to the Principal Regulations, the words "49.70 Hz and above" shall be substituted by the words "*49.85 Hz and above*".

No Comments

6.2 In clause 2 of Annexure-I-A to the Principal Regulations, the words "824.04 Paise / kWh" shall be substituted by the words "*800 Paise / kWh*".

No Comments

7. Amendment of Annexure-II (Methodologies for the computation of Charges of Deviation for each regional entity for crossing the volume limits specified for the over-drawal / under-injection by Buyer / Seller [except Renewable Rich State]) of the Principal Regulation:

7.1 In clause C of Annexure-II to the Principal Regulations, the words "50.10 Hz or above" shall be substituted by the words "*50.05 Hz or above*".

No Comments

8. Amendment of Annexure-II-A (Methodologies for the computation of Charges of Deviation applicable to Renewable Rich States for crossing the volume limits specified for the over-drawal / under-injection) of the Principal Regulation:

8.1 In clause C of Annexure-II-A to the Principal Regulations, the words "50.10 Hz or above" shall be substituted by the words "50.05 Hz or above".

Comments:

The limit of 50.10 Hz and above shall be retained for Renewable rich State with RE (combined installed capacity of Wind and Solar) installed capacity of more than 9000 MW. *This is to accommodate the variation in RE generation as 15% deviation is permitted for wind and Solar plants and there is no deviation charges if the deviation is within the specified limits of + or – 15%, as per the State Commission (Forecasting, scheduling, Deviation settlement and related matters for Wind and Solar Generation sources) Regulations 2015.*

In clause B(ii) of Annexure-II-A;

In case of Renewable rich State with RE (combined installed capacity of Wind and Solar) installed capacity of more than 9000 MW the Charges receivable by the buyer for DL (Deviation in excess of limit(500MW) specified in Annexure III) in each time block when average grid frequency of the time block is 49.85 Hz and above and below 50.10 Hz shall be as under;

SI No	DL (Deviation in excess of limit(500MW) specified in Annexure III)	Charges
1	<= 500MW	The charge for the Deviation corresponding to average grid frequency of the time block.
2	> 500 <= 600 MW	Equivalent to 90% of The charge for the Deviation corresponding to average grid frequency of the time block.
3	> 600 <= 700 MW	Equivalent to 80% of The charge for the Deviation corresponding to average grid frequency of the time block.
4	> 700 <= 800 MW	Equivalent to 70% of The charge for the Deviation corresponding to average grid frequency of the time block.
5	> 700 <= 800 MW	Equivalent to 70% of The charge for the Deviation corresponding to average grid frequency of the time block.

	> 800 MW	Equivalent to 60% of The charge for the Deviation corresponding to average grid frequency of the time block.
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A. Additional : Proposal for amendment

Annexure III, The deviation limits for Renewable Rich States of the Principal Regulations shall be substituted as under:

Sl No	States having combined installed capacity of Wind and Solar projects	Deviation limit (MW), "L"
1	1000-3000 MW	200
2	> 3000 <= 9000 MW	250
3	>9000 MW	500

Statement of reasons for the proposal 500 MW for the States having combined installed capacity of Wind and Solar projects more than 9000MW.

The deviation margin of 250MW is inadequate to operate the State grid as 15% deviation is permitted for wind and Solar plants and there is no deviation charges if the deviation is within the specified limits of + or – 15%, as per the State Commission (Forecasting, scheduling, Deviation settlement and related matters for Wind and Solar Generation sources) Regulations 2015. And also 5 Distribution Companies are operating in the State. Hence the deviation limit shall be 500 MW both for over drawal and under drawal of power.