

## ग्रिंड कंट्रोलर ऑफ इंडिया लिमिटेड (भारत सरकार का उद्यम) GRID CONTROLLER OF INDIA LIMITED



(A Government of India Enterprise)

[formerly Power System Operation Corporation Limited (POSOCO)]

राष्ट्रीय भार प्रेषण केन्द्र / National Load Despatch Centre

कार्यालय : बी-9, प्रथम एवं द्वितीय तल, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली - 110016 Office : 1<sup>st</sup> and 2<sup>nd</sup> Floor, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi -110016 CIN : U40105DL2009GOI188682, Website : www.grid-india.in, E-mail : gridindiacc@grid-india.in, Tel.: 011- 40234672

संदर्भ संख्या:एनएलडीसी/आरपीसी/2023

दिनाँक: 18th अप्रैल, 2023

सेवा मे,

- 1. Member Secretary, NRPC, 18/A, SJSS Marg, Katwaria Sarai, New Delhi-110016
- 2. Member Secretary, WRPC, F-3, MIDC Area, Andheri (East), Mumbai-400093
- 3. Member Secretary, SRPC, 29, Race Course Cross Road, Bangalore-560009.
- 4. Member Secretary, ERPC, 14, Golf Club Road , Kolkata-700033
- 5. Member Secretary, NERPC, Lapalang, Shillong, Meghalaya 793006

संदर्भ: 1. CERC: Petition No. 05/SM/2023 Date of Order 09<sup>th</sup> April, 2023

#### विषय: Revised Methodology for computation & declaration of Normal Rate for Deviation

महोदय,

CERC vide order in Petition No. 05/SM/2023 Date of Order 09<sup>th</sup> April, 2023 revised the methodology for calculation of Normal Rate of Charges for Deviations for a time block which is applicable from 10<sup>th</sup> April'2023. This change needs to be incorporated in the "Methodology for Computation & Declaration of Normal Rate".

The relevant extract from the above order is quoted below:

"The Commission hereby relaxes Regulation 7 of the DSM Regulations, 2022 to provide that the Normal Rate of Charges for Deviations for a time block as specified in Regulation 7 of the DSM Regulations, 2022 shall be equal to the higher of [the weighted average ACP of the Day Ahead Market segments of all the Power Exchanges; and the weighted average ACP of the Real Time Market segments of all the Power Exchanges, for that time block].

Provided that for a Seller whose bid is cleared in the HP-DAM, the Normal Rate of Charges for Deviation by way of 'underinjection' for a time block shall be equal to the highest of [the weighted average ACP of the HP-DAM Market segments of all the Power Exchanges; or 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, for that time block] for the quantum of power sold though HPDAM."

Accordingly, in order to incorporate the direction of CERC. the methodology has been revised and is enclosed herewith. The same has been uploaded on the Grid-India website.

सादर धन्यवाद,

(S. C. Saxena) Executive Director

Encl: As above

Copy to: 1. Secretary CERC, 3 rd & 4 th Floor, Chanderlok Building, 36, Janpath, New Delhi- 110001 2. Executive Director NRLDC/WRLDC/SRLDC/ERLDC/NERLDC



## **Grid Controller of India limited**

(Formerly Power System Operation Corporation Limited)

(A Govt. of India Enterprise)

Methodology for Computation & Declaration of Normal Rate In accordance with

**CERC Deviation Settlement Mechanism Regulations, 2022** 

Version-6

18<sup>th</sup> April'2023

National Load Despatch Centre (NLDC)

New Delhi

Page **1** of **14** 

## Methodology for computation & declaration of Normal Rate in line with CERC Deviation Settlement Mechanism and Related Matters Regulations, 2022

## 1. Background

CERC Deviation Settlement Mechanism Regulations, 2022 (hereinafter referred to as "DSM Regulations") was notified on 14<sup>th</sup> March 2022. The date of implementation has been notified as 05.12.2022 by CERC on 31<sup>st</sup> October 2022.

This regulation provides for declaration of Normal Rate of charges for deviation which, as per the DSM Regulations, is applicable for deviation in a time block.

The methodology to be adopted for computation of normal rate of charges for deviation is summarised below.

For the period 10.03.2023 to 09.04.2023*	From 10.04.2023 onwards		
The normal rate of charges for deviation for a time	The normal rate of charges for deviation for		
block shall be equal to the highest of:	a time block shall be equal to the highest of		
<ul> <li>the weighted average ACP of the Day Ahead Market segments# of all the Power Exchanges;</li> </ul>	<ul> <li>i. the weighted average ACP of the Day Ahead Market segments* of all the Power Exchanges;</li> </ul>		
ii. the weighted average ACP of the Real Time Market segments of all the Power Exchanges, for that time block.	<ul> <li>ii. the weighted average ACP of the Real Time Market segments of all the Power Exchanges, for that time block.</li> </ul>		
# HP-DAM implemented from 10.03.2023	* G-DAM,DAM & HP-DAM		
*CERC suo-motu Petition No. 16/MP/2022 dated 26.12.2022 introduced price cap of Rs 12 per kWh	<ul> <li>Provided that for a Seller whose bid is cleared in the HP-DAM, the Normal Rate of Charges for Deviation by way of 'under-injection' for a time block shall be equal to the highest of <ol> <li>the weighted average ACP of the HP-DAM Market segments of all the Power Exchanges;</li> </ol> </li> <li>the weighted average ACP of the Day Ahead Market segments of all the Power Exchanges;</li> <li>the weighted average ACP of the Real Time Market segments of all the Power Exchanges, for that time block for the quantum of power sold though HP-DAM</li> </ul>		

The normal rate of charges (paisa /Kwh) for deviation shall be rounded off to the nearest two decimal places.

## 2. Procedure for calculating the normal rate of charges:

a. The weighted average ACP of the Day Ahead Market (DAM, G-DAM & HP-DAM) and Real Time Market (RTM) shall be calculated bid area wise considering all Power Exchanges. The list of Bid Areas and States covered under Bid-Areas is enclosed as *Annexure-1*.

- b. Subsequently, as and when any new market segment is introduced in Day Ahead Market, this would be suitably incorporated in the rate computations.
- c. In case of non-availability of ACP in any Power Exchange for a Bid-Area for a time block, if ACP is discovered in other exchanges/exchange, the available discovered ACP shall be considered for computing the weighted average ACP for that time block.
- d. In case of non-availability of ACP for any time block on a given day in all Power Exchanges, the last available ACP for the corresponding time block shall be considered. The non-availability of ACP shall only be considered for those time blocks where the market has not cleared. In case price declared is zero by the Power Exchanges, the same shall be considered.
- e. The **weighted average ACP of the Day Ahead Market** segments of all the Power Exchanges shall be computed as follows.

The weighted average ACP of the Day Ahead Market segments shall be computed by considering the block wise, area wise price and cleared volume for Day Ahead Market (DAM) and GDAM (Green Day Ahead Market) & High Price Market Segment (HP-DAM) in all the operational Power Exchanges.

For a given time block, the following methodology shall be used for computation of the weighted average ACP in Day Ahead Market for sample bid Area A1.

DAM				
Volume IEX (Buy +Sell) = A1 <sub>IEX</sub>	Price IEX = P1 <sub>IEX</sub>			
Volume PXIL (Buy +Sell) = A1 <sub>PXIL</sub>	Price IEX = P1 <sub>PXIL</sub>			
Volume HPX (Buy +Sell) = A1 <sub>HPX</sub>	Price HPX = P1 <sub>HPX</sub>			
GDAM				
Volume IEX (Buy +Sell) = A1 <sub>G-IEX</sub>	Price IEX = P1 <sub>G-IEX</sub>			
Volume PXIL (Buy +Sell) = A1 <sub>G-PXIL</sub>	Price IEX = P1 <sub>G-PXIL</sub>			
Volume HPX (Buy +Sell) = A1 <sub>G-HPX</sub>	Price HPX = P1 <sub>G-HPX</sub>			
HP-D	AM			
Volume IEX (Buy +Sell) = A1 <sub>HP-IEX</sub>	Price IEX = P1 <sub>HP-IEX</sub>			
Volume PXIL (Buy +Sell) = A1 <sub>HP-PXIL</sub>	Price IEX = P1 <sub>HP-PXIL</sub>			
Volume HPX (Buy +Sell) = A1 <sub>HP-HPX</sub>	Price HPX = P1 <sub>HP-HPX</sub>			

Volume in KwH and Price in paisa/KwH

#### Weighted Average ACP of Day Ahead Market segments (paise/Unit) =

[(A1<sub>IEX</sub>\*P1<sub>IEX</sub>)+(A1<sub>PXIL</sub>\*P1<sub>PXIL</sub>)+(A1<sub>HPX</sub>\*P1<sub>HPX</sub>)+(A1<sub>G-IEX</sub>\*P1<sub>G-IEX</sub>)+(A1<sub>G-PXIL</sub>\*P1<sub>G-PXIL</sub>)+(A1<sub>G-HPX</sub>\*P1<sub>G-HPX</sub>)+ (A1<sub>HP-IEX</sub>\*P1<sub>HP-IEX</sub>)+(A1<sub>HP-PXIL</sub>\*P1<sub>HP-PXIL</sub>)+(A1<sub>HP-HPX</sub>\*P1<sub>HP-HPX</sub>)]

 $[A1_{IEX} + A1_{PXIL} + A1_{HPX} + A1_{G-IEX} + A1_{G-PXIL} + A1_{G-HPX} + A1_{HP-IEX} + A1_{HP-PXIL} + A1_{HP-HPX}]$ 

f. The **weighted average ACP of the Real Time Market** segment of all the Power Exchanges shall be computed as follows.

The weighted average ACP of the Real Time Market (RTM) segment of all the Power Exchanges shall be computed by considering the block wise, area wise price and volume of RTM in all the operational Power Exchanges.

In case of non-availability of ACP for any time block on a given day in all Power Exchanges, ACP for the corresponding time block of the last available day shall be considered. The non-availability of ACP shall only be considered for those time blocks where the market has not cleared. In case price declared is zero by the Power Exchanges, the same shall be considered.

For a given time block, the following methodology shall be used for computation of the weighted average ACP for Real Time Market for a sample bid Area A1

RTM			
Price IEX = P2 <sub>IEX</sub>			
Price PXIL = $P2_{PXIL}$			
Price HPX = P2 <sub>HPX</sub>			

Volume in KwH and Price in paisa/KwH

#### Weighted Average ACP of RTM (paise/Unit) =

#### $[(A1_{IEX}*P2_{IEX}) + (A1_{PXIL}*P2_{PXIL}) + (A1_{HPX}*P2_{HPX})]$

[A2<sub>IEX</sub>+ A2<sub>PXIL</sub>+A2<sub>HPX</sub>]

g. Normal Rate of Charges (paise/Unit) of an area for a time block =

Maximum of

- weighted average ACP of Day Ahead Market segments of that area
- weighted average ACP of RTM of that area

# 3. Procedure for calculating the normal rate of charges for Seller whose bid is cleared in the HP-DAM, for the quantum of power sold though HP-DAM for Under-Injection:

- a. The weighted average ACP of the HP-DAM Market of all the Power Exchanges shall be computed as follows.
  - i. In case of non-availability of ACP in any Power Exchange for a Bid-Area for a time block, if ACP is discovered in other exchanges/exchange, the available discovered ACP shall be considered for computing the weighted average ACP for that time block.
  - ii. In case of non-availability of ACP for any time block on a given day in all Power Exchanges, the same shall be considered zero.

iii. The weighted average ACP of the HP-DAM of all the Power Exchanges shall be computed as follows.

For a given time block, the following methodology shall be used for computation of the weighted average ACP in Day Ahead Market for sample bid Area A1.

HP-DAM			
Volume IEX (Buy +Sell) = A1 <sub>HP-IEX</sub>	Price IEX = P1 <sub>HP-IEX</sub>		
Volume PXIL (Buy +Sell) = A1 <sub>HP-PXIL</sub>	Price IEX = P1 <sub>HP-PXIL</sub>		
Volume HPX (Buy +Sell) = A1 <sub>HP-HPX</sub>	Price HPX = P1 <sub>HP-HPX</sub>		

Volume in KwH and Price in paisa/KwH

#### Weighted Average ACP of HP-DAM (paise/Unit) =

[(A1<sub>HP-IEX</sub>\*P1<sub>HP-IEX</sub>)+(A1<sub>HP-PXIL</sub>\*P1<sub>HP-PXIL</sub>)+(A1<sub>HP-HPX</sub>\*P1<sub>HP-HPX</sub>)]

[A1<sub>HP-IEX</sub>+ A1<sub>HP-PXIL</sub>+ A1<sub>HP-HPX</sub>]

- b. The weighted average ACP of the Day Ahead Market(DAM)
  - i. In case of non-availability of ACP in any Power Exchange for a Bid-Area for a time block, if ACP is discovered in other exchanges/exchange, the available discovered ACP shall be considered for computing the weighted average ACP for that time block.
  - ii. In case of non-availability of ACP for any time block on a given day in all Power Exchanges, the last available ACP for the corresponding time block shall be considered. The non-availability of ACP shall only be considered for those time blocks where the market has not cleared. In case price declared is zero by the Power Exchanges, the same shall be considered.
  - iii. The weighted average ACP of the Day Ahead Market(DAM) segment shall be computed by considering the block wise, area wise price and cleared volume for Day Ahead Market (DAM) and GDAM (Green Day Ahead Market) in all the operational Power Exchanges.

For a given time block, the following methodology shall be used for computation of the weighted average ACP in Day Ahead Market for sample bid Area A1.

DAM				
Volume IEX (Buy +Sell) = A1 <sub>IEX</sub>	Price IEX = P1 <sub>IEX</sub>			
Volume PXIL (Buy +Sell) = A1 <sub>PXIL</sub>	Price IEX = P1 <sub>PXIL</sub>			
Volume HPX (Buy +Sell) = A1 <sub>HPX</sub>	Price HPX = P1 <sub>HPX</sub>			
GDAM				
Volume IEX (Buy +Sell) = A1 <sub>G-IEX</sub>	Price IEX = P1 <sub>G-IEX</sub>			
Volume PXIL (Buy +Sell) = A1 <sub>G-PXIL</sub>	Price IEX = P1 <sub>G-PXIL</sub>			
Volume HPX (Buy +Sell) = A1 <sub>G-HPX</sub>	Price HPX = P1 <sub>G-HPX</sub>			

Volume in KwH and Price in paisa/KwH

#### Weighted Average ACP of (DAM) Day Ahead Market segments (paise/Unit) =

 $[(A1_{IEX}*P1_{IEX})+(A1_{PXIL}*P1_{PXIL})+(A1_{HPX}*P1_{HPX})+(A1_{G-IEX}*P1_{G-IEX})+(A1_{G-PXIL}*P1_{G-PXIL})+(A1_{G-HPX}*P1_{G-HPX})]$ 

 $[A1_{IEX}+A1_{PXIL}+A1_{HPX}+A1_{G-IEX}+A1_{G-PXIL}+A1_{G-HPX}]$ 

- c. The weighted average ACP of the Real Time Market segment of all the Power Exchanges shall be computed as mentioned in clause 2.f.
- Normal Rate of Charges (paise/Unit) for Seller whose bid is cleared in the HP-DAM, for the quantum of power sold though HP-DAM for Under-Injection for a time block = Maximum of
  - Weighted Average ACP of HP-DAM of that area
  - The weighted average ACP of the Day Ahead Market(DAM) segment of that area
  - Weighted average ACP of RTM of that area
- 4. Normal rate of charges for deviation for inter-regional deviation and cross-border transactions.
  - a. Inter-regional corridors are interconnected through different bid areas and neighboring countries are also connected to different bid areas in India. To simplify the settlement of inter-regional and cross-border deviations, the highest of the weighted average price of the unconstrained market clearing price (UMCP) of Day Ahead Market(DAM) segments, RTM of all Power Exchanges shall be considered for computing the normal rate of charges for deviation.
    - b. The charges for deviation in respect of cross-border transactions, caused by way of overdrawal/under drawal or under-injection/over-injection shall be payable at the normal rate of charges for deviation.
    - c. Charges for Deviation of Inter-regional Exchange between the two regions shall be computed based on normal rate applicable. No additional charges or volume limit shall be applicable for inter-regional deviations. Charges for Deviation shall be applicable for over-drawal or under-injection and under-drawal or over-injection for inter-regional deviations.

#### Illustration:

Block No	SR to WR (Schedule)	SR to WR (Actual)	Deviation	Normal rate Paisa/Unit)	Deviation Amount as per SRPC(Rs)	Deviation Amount as per WRPC(Rs)	Payable/Receivable
1	100 MW	150 MW	50MW	400	50000	-50000	Payable by WR to SR
2	100 MW	50MW	-50MW	400	-50000	50000	Payable by SR to WR
3	-200 MW	-300 MW	-100 MW	400	-100000	100000	Payable by SR to WR
4	-200 MW	-100 MW	100 MW	400	100000	-100000	Payable by WR to SR

d. In case of non-availability of UMCP for any time block on a given day in all Power Exchanges, the last available UMCP for the corresponding time block shall be considered.

The following shall be used for computation for weighted average UMCP of DAM for a sample time block:

DAM				
Volume IEX (Buy +Sell) = V <sub>IEX</sub>	UMCP IEX = $P_{IEX}$			
Volume PXIL (Buy +Sell) = V <sub>PXIL</sub>	UMCP PXIL= P <sub>PXIL</sub>			
Volume HPX (Buy +Sell) = V <sub>HPX</sub>	UMCP HPX = P <sub>HPX</sub>			
GDA	AM			
Volume IEX (Buy +Sell) = V <sub>G-IEX</sub>	UMCP IEX = $P_{G-IEX}$			
Volume PXIL (Buy +Sell) = V <sub>G-PXIL</sub>	UMCP IEX = $P_{G-PXIL}$			
Volume HPX (Buy +Sell) = V <sub>G-HPX</sub>	UMCP HPX = $P_{G-HPX}$			
HP-DAM				
Volume IEX (Buy +Sell) = V <sub>HP-IEX</sub>	UMCP IEX = $P_{HP-IEX}$			
Volume PXIL (Buy +Sell) = V <sub>HP-PXIL</sub>	UMCP IEX = $P_{HP-PXIL}$			
Volume HPX (Buy +Sell) = V <sub>HP-HPX</sub>	UMCP HPX = P <sub>HP-HPX</sub>			

Volume in KwH and Price in paisa/KwH

#### weighted average UMCPP of DAM (paise/unit) =

[(Viex\*Piex)+(Vpxil\*Ppxil)+(Vhpx\*Phpx)+(Vg-iex\*Pg-iex)+(Vg-pxil\*Pg-pxil)+(Vg-hpx\*Pg-hpx)+(Vhp-iex\*Php-iex)+ (Vhp-pxil\*Php-pxil)+(Vhp-hpx\*Php-hpx)]

[VIEX+ VPXIL+VHPX+ VG-IEX+ VG-PXIL+ VG-HPX+VHP-IEX+ VHP-PXIL+ VHP-HPX]

#### The following shall be used for computation for weighted average UMCP of RTM for a time block

RTM			
Volume IEX (Buy +Sell) = V <sub>IEX</sub>	Price IEX = P <sub>IEX</sub>		
Volume PXIL (Buy +Sell) = V <sub>PXIL</sub>	Price PXIL = P <sub>PXIL</sub>		
Volume HPX (Buy +Sell) = V <sub>HPX</sub>	Price HPX = P <sub>HPX</sub>		

Volume in KwH and Price in paisa/KwH

#### weighted average UMCPP of RTM (paise/unit) =

 $[(V_{IEX}*P_{IEX}) + (V_{PXIL}*P_{PXIL}) + (V_{HPX}*P_{HPX})$ 

[VIEX+ VPXIL+VHPX]

## 5. Validity of the procedure:

This procedure is valid for one year from 10.04.2023 to 04.12.2023. The procedure shall be reviewed prior to completion of one year or in case of any regulatory changes or based on the experience gained.

## 6. Time line for publication of normal rate of charges for deviation:

NLDC shall publish the normal rate of charges for deviation on weekly basis by Thursday of the current week for the previous week (Monday to Sunday).

Normal rate of charges shall not be revised after declaration as per the timeline above. No post facto revision in the DSM account would be carried out due to any revision of normal rate of charges for deviation or contract rate or reference charge rate already used for DSM computation.

## Annexure-1: Bid Areas and States covered under Bid-Areas

Sr. No.	Bid Area	Region	States covered under Bid Area
1	N1	NR	Jammu and Kashmir, Himachal Pradesh, Chandigarh, Haryana
2	N2	NR	Uttar Pradesh , Uttaranchal, Rajasthan, Delhi
3	N3	NR	Punjab
4	E1	ER	West Bengal, Sikkim, Bihar, Jharkhand
5	E2	ER	Orissa
6	W1	WR	Madhya Pradesh
7	W2	WR	Maharashtra, Gujarat, Daman and Diu, Dadar and Nagar Haveli, North Goa
8	W3	WR	Chhattisgarh
9	S1	SR	Andhra Pradesh, Telangana, Karnataka, South Goa
10	S2	SR	Tamil Nadu, Puducherry
11	S3	SR	Kerala
12	A1	NER	Tripura, Manipur, Mizoram, Nagaland
13	A2	NER	Assam, Arunachal Pradesh, Meghalaya

## **Revision History:**

Ver No	Date of Issue	Original Clause	Revised Clause	Remarks
1	02 <sup>nd</sup> Dec'22			Original Methodology
2	12 <sup>th</sup> Dec'22	a. ASNET>0 If ASNET>0 Weighted Average Ancillary Service Charge of All India (paise/Unit) =	g.ASNET>0 If ASNET>0 Weighted Average Ancillary Service Charge of All India (paise/Unit) =	It was observed that in som situations, netting of th Ancillary despatched quantur leads to high/unrealisti Weighted Average Ancillar
		100*AS <sub>NET</sub>	100*AS <sub>NET</sub>	Service Charge (Paisa/Unit) an in extreme case, infeasib
		[ (RRAS_Up Volume+ SRAS_Up Volume(15min) -RRAS_Down Volume- SRAS_Down Volume(15min)) *1000]	[ (RRAS_Up Volume+ SRAS_Up Volume(15min)) *1000]	Weighted Average Ancilla Service Charge (Paisa/Unit).
		If ASNET<0 Weighted Average Ancillary Service Charge of All India (paise/Unit) =	If ASNET<0 Weighted Average Ancillary Service Charge of All India (paise/Unit) =	
		_	100*AS <sub>NET</sub>	
		100*AS <sub>NET</sub>	(RRAS_Down Volume+	
		(-) [ (RRAS_Up Volume+ SRAS_Up Volume(15min) -RRAS_Down Volume- SRAS_Down Volume(15min)) *1000]	SRAS_Down) Volume(15min)) *1000	
		Page	• <b>10</b> of <b>14</b>	

Ver Date of Issue	Original Clause	Revised Clause	Remarks
<b>3</b> 16 <sup>th</sup> Jan'23	<ul> <li>2.h.Normal Rate of Charges (paise/Unit) of an area for a time block =</li> <li>Maximum of</li> <li>weighted average ACP of DAM of that area</li> <li>weighted average ACP of RTM of that area</li> <li>Weighted Average Ancillary Service Charge of All India</li> </ul>	<ul> <li>2.h.Normal Rate of Charges (paise/Unit) of an area for a time block =</li> <li>Maximum of</li> <li>weighted average ACP of DAM of that area</li> <li>weighted average ACP of RTM of that area</li> <li>Weighted Average Ancillary Service Charge of All India</li> <li>Subject to a cap rate of Rs 12 per kWh or as specified by CERC from time to time.</li> </ul>	CERC: Petition No. 16/SM/2022 Order dated 26 <sup>th</sup> Dec'22 "10Accordingly, the Commission decides that the Normal Rate of Charges for Deviations for a time block as specified in Regulation of the DSM Regulations, 2022 sho be subject to the cap of Rs 12 per kWh, until further orders. "
	New clause added 3.b & 3.c	<ul> <li>b. The charges for deviation in respect of cross-border transactions, caused by way of over-drawal/under drawal or under-injection/over-injection shall be payable at the normal rate of charges for deviation.</li> <li>c. Charges for Deviation of Inter-regional Exchange between the two regions shall be computed based on normal rate applicable. No addition charges or volume limit shall be applicable for inter-regional deviations. Charges for Deviation shall be applicable for over-drawal or under-injection and under-drawal or over-injection for inter-regional deviations.</li> </ul>	approach amongst RPCs for computation off deviation

Ver No	Date of Issue	Original Clause	Revised Clause	Remarks
4	21 <sup>st</sup> Feb'23	From 05.12.2023 onwards Weighted Average Ancillary Service Charge (in paise/kWh) computed based on the total quantum of Ancillary Services deployed and the net charges payable to the Ancillary Service Providers for all the Regions for that time block.	From 08.02.2023 onwardsThe normal rate of charges for deviation fora time block shall be equal to the highest of:i. the weighted average ACP of the Day AheadMarket segments of all the Power Exchanges;ii. the weighted average ACP of the Real TimeMarket segments of all the Power Exchanges,Exchanges, for that time block.	
		<ul> <li>g. The weighted average Ancillary Service Charge shall be computed as follows</li> <li>3.a. Inter-regional corridors are interconnected through different bid areas and neighboring countries are also connected to different bid areas in India. To simplify the settlement of inter-regional and cross-border deviations, the highest of the weighted average price of the unconstrained market clearing price (UMCP) of DAM, RTM of all Power Exchanges &amp; weighted average Ancillary Services charges shall be considered for computing the normal rate of charges for deviation.</li> </ul>	Removed 3.a. Inter-regional corridors are interconnected through different bid areas and neighboring countries are also connected to different bid areas in India. To simplify the settlement of inter-regional and cross-border deviations, the highest of the weighted average price of the unconstrained market clearing price (UMCP) of DAM, RTM of all Power Exchanges shall be considered for computing the normal rate of charges for deviation.	
5	23 <sup>rd</sup> Mar'23	For a given time block, the following methodology shall be used for computation of the weighted average ACP in Day Ahead Market for sample bid Area A1.	For a given time block, the following methodology shall be used for computation of the weighted average ACP in Day Ahead Market for sample bid Area A1.	

		DAI	DAM	
DAN	DAM		Price IEX = P1 <sub>IEX</sub>	
Volume IEX (Buy +Sell) =	Price IEX = P1 <sub>IEX</sub>			
Aliex		Volume PXIL (Buy +Sell)	Price IEX = P1 <sub>PXIL</sub>	
		= A1 <sub>PXIL</sub>		
Volume PXIL (Buy +Sell) =	Price IEX = P1 <sub>PXIL</sub>	Volume HPX (Buy +Sell)	Price HPX = P1 <sub>HPX</sub>	
A1 <sub>PXIL</sub>		= A1 <sub>HPX</sub>		
		GDA	M	
Volume HPX (Buy +Sell) =	Price HPX = P1 <sub>HPX</sub>	Volume IEX (Buy +Sell) =	Price IEX = P1 <sub>G-IEX</sub>	
A1 <sub>HPX</sub>		A1 <sub>G-IEX</sub>		
GDA	M	Volume PXIL (Buy +Sell)	Price IEX = P1 <sub>G-PXIL</sub>	
Volume IEX (Buy +Sell) =	Price IEX = P1 <sub>G-IEX</sub>	= A1 <sub>G-PXIL</sub>		
A1 <sub>G-IEX</sub>		Volume HPX (Buy +Sell)	Price HPX = P1 <sub>G-HPX</sub>	
Volume PXIL (Buy +Sell) =	Price IEX = P1 <sub>G-PXIL</sub>	= A1 <sub>G-HPX</sub>		
A1 <sub>G-PXIL</sub>		HP-DAM		
Volume HPX (Buy +Sell) =	Price HPX = P1 <sub>G-HPX</sub>	Volume IEX (Buy +Sell) =	Price IEX = P1 <sub>HP-IEX</sub>	
A1 <sub>G-HPX</sub>		A1 <sub>HP-IEX</sub>		
		Volume PXIL (Buy +Sell)	Price IEX = P1 <sub>HP-PXIL</sub>	
Weighted Average ACP of	DAM (paise/Unit) =	= A1 <sub>HP-PXIL</sub>		
[(Δ1, <sub>Γγ</sub> *Ρ1, <sub>Γγ</sub> )+(Δ1 <sub>5γ0</sub> *Ρ1	)+(Δ1,*P1,)+(	Volume HPX (Buy +Sell)	Price HPX = P1 <sub>HP-HPX</sub>	
[(A1 <sub>IEX</sub> *P1 <sub>IEX</sub> )+(A1 <sub>PXIL</sub> *P1 <sub>PXIL</sub> )+(A1 <sub>HPX</sub> *P1 <sub>HPX</sub> )+( A1 <sub>G-IEX</sub> *P1 <sub>G-IEX</sub> )+(A1 <sub>G-PXIL</sub> *P1 <sub>G-PXIL</sub> )+(A1 <sub>G- HPX</sub> *P1 <sub>G-HPX</sub> ))] [A1 <sub>IEX</sub> + A1 <sub>PXIL</sub> +A1 <sub>HPX</sub> + A1 <sub>G-IEX</sub> + A1 <sub>G-PXIL</sub> + A1 <sub>G- HPX</sub> )]		= A1 <sub>HP-HPX</sub>		
		Weighted Average ACP of I-DAM Day Ahead Market segments (paise/Unit) = [(A1 <sub>IEX</sub> *P1 <sub>IEX</sub> )+(A1 <sub>PXIL</sub> *P1 <sub>PXIL</sub> )+(A1 <sub>HPX</sub> *P1 <sub>HPX</sub> )+ (A1 <sub>G-IEX</sub> *P1 <sub>G-IEX</sub> )+(A1 <sub>G-PXIL</sub> *P1 <sub>G-PXIL</sub> )+(A1 <sub>G- HPX</sub> *P1 <sub>G-HPX</sub> )+(A1 <sub>HP-IEX</sub> *P1 <sub>HP-IEX</sub> )+(A1 <sub>HP- PXIL</sub> *P1 <sub>HP-PXIL</sub> )+(A1 <sub>HP-HPX</sub> *P1 <sub>HP-HPX</sub> ))] [A1 <sub>IEX</sub> +A1 <sub>PXIL</sub> +A1 <sub>HPX</sub> +A1 <sub>G-IEX</sub> +A1 <sub>G-PXIL</sub> +A1 <sub>G- HPX</sub> +A1 <sub>HP-IEX</sub> +A1 <sub>HP-PXIL</sub> +A1 <sub>HP-HPX</sub> ]		

1	18 <sup>th</sup> Apr'23	For the period 10.03.2023 to 09.04.2023*	From 10.04.2023 onwards	CERC	Order	dated	1:09 <sup>th</sup>
		The normal rate of charges for deviation for a time	The normal rate of charges for deviation for a	April'2023	in	Petition	No
		block shall be equal to the highest of:	time block shall be equal to the highest of:	05/SM/202	3		
		<ul> <li>iii. the weighted average ACP of the Day Ahead Market segments# of all the Power Exchanges;</li> </ul>	<ul> <li>iii. the weighted average ACP of the Day Ahead Market segments<sup>*</sup> of all the Power Exchanges;</li> <li>iv. the weighted average ACP of the Real Time</li> </ul>				
		iv. the weighted average ACP of the Real Time Market segments of all the Power Exchanges, for that time block.	Market segments of all the Power Exchanges, for that time block.				
		# HD DAM implemented from 10.02.2022	* G-DAM,DAM & HP-DAM				
			<ul> <li>Provided that for a Seller whose bid is cleared in the HP-DAM, the Normal Rate of Charges for Deviation by way of 'under-injection' for a time block shall be equal to the highest of</li> <li>iv. the weighted average ACP of the HP-DAM Market segments of all the Power Exchanges;</li> <li>v. the weighted average ACP of the Day Ahead Market segments of all the Power Exchanges;</li> <li>vi. the weighted average ACP of the Real Time Market segments of all the Power Exchanges, for that time block</li> </ul>				
	18 <sup>th</sup> Apr'23	2.gSubject to a cap rate of Rs 12 per kWh or as	for the quantum of power sold though HP-DAM deleted	CERC	Order	dated	1:09 <sup>t</sup>
		specified by CERC from time to time.		April'2023 05/SM/202		Petition	Nc
-	18 <sup>th</sup> Apr'23	-	<b>3.</b> Procedure for calculating the normal rate of charges Seller whose bid is cleared in the HP-DAM, for the quantum of power sold though HP-DAM for Under-Injection	CERC April'2023 05/SM/202		dated Petition	l:09 <sup>t</sup> No