

CERC Deviation Settlement Mechanism Regulations 2022



CERC DSM Regulations 2022

Deviation Settlement Mechanism

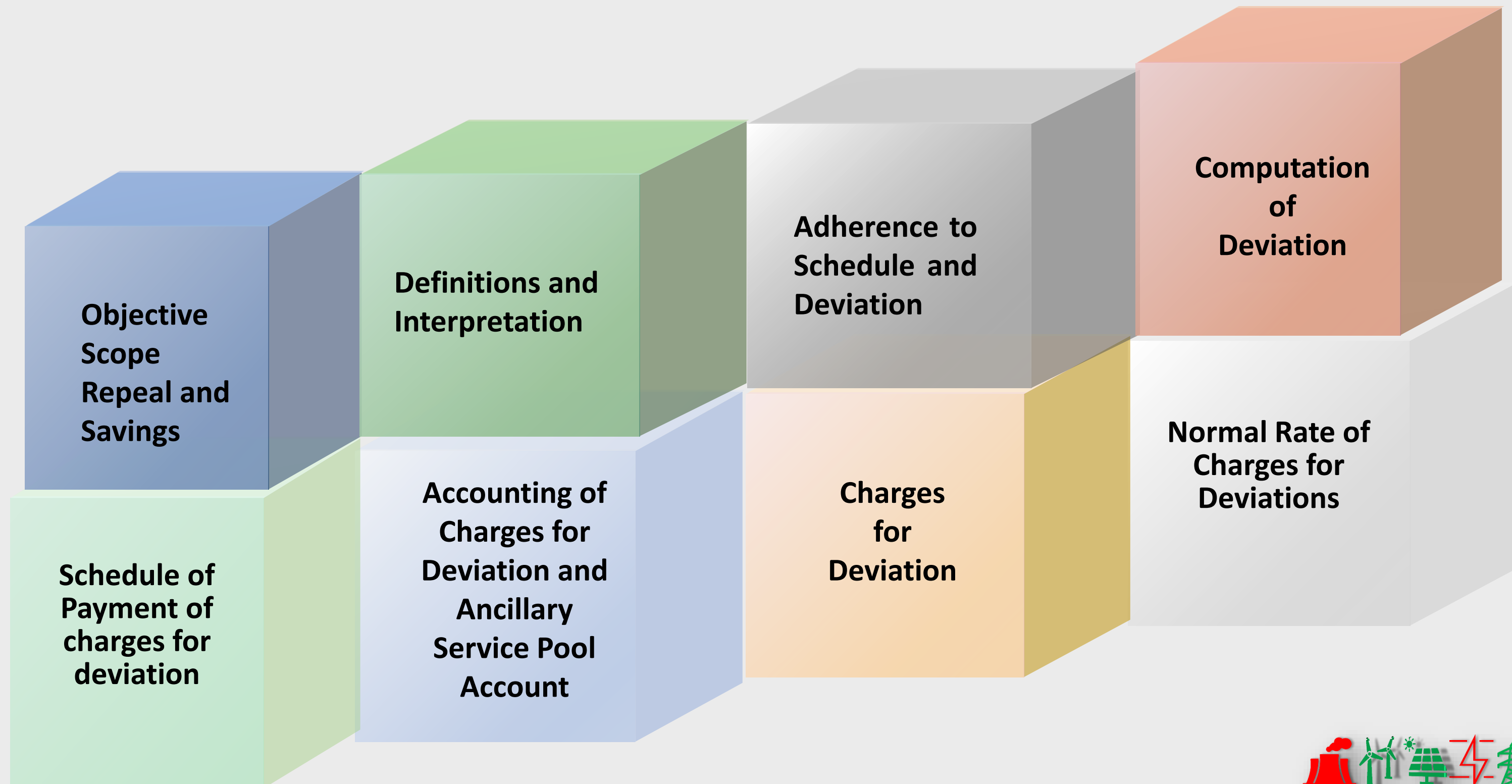
A regulatory mechanism for treatment and settlement of deviation from schedule of drawal or injection of electricity in the interest of reliability, security and stability of the grid.

Deviation Settlement Mechanism Regulations is an offset commercial mechanism introduced earlier as a part of Tariff Regulations (Unscheduled Interchange Mechanism). In the present regulation frequency linked rate was dispensed with in line with report of the enquiry committee on 30th&31st July 2012. (Frequency control through UI may be phased out in a time bound manner and Generation reserves/Ancillary services may be used for frequency control, Appropriate regulatory mechanism needs to be put in place for this purpose.)

Notification issued on 14-03-2022 and effective from 05-12-2022



DSM 2022 - Major Provisions



Objective
Scope
Repeal and
Savings

Objective, Scope, Repeal and Savings

Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) Regulations, 2022 notified to be effective from 05-12-2022.

Objective

To seek to ensure, through a commercial mechanism that users of the grid do not deviate from and adhere to their schedule of drawal and injection of electricity in the interest of security and stability of the grid.

Scope

These regulations shall be applicable to all grid connected regional entities and other entities engaged in inter-State purchase and sale of electricity.

Repeal and Savings

Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2014 shall stand repealed from the date of commencement of these Regulations.

On commencement of these regulations, the Regional Deviation Pool Account Fund constituted under the repealed regulations shall be renamed as the Deviation and Ancillary Service Pool Account constituted under these regulations.

Adherence to Schedule and Deviation

Adherence to Schedule and Deviation

- (1) For a secure and stable operation of the grid, every grid connected regional entity shall adhere to its schedule as per the Grid Code and shall not deviate from its schedule.*
- (2) Any deviation shall be managed by the Load Despatch Centre as per the Ancillary Services Regulations, and the computation, charges and related matters in respect of such deviation shall be dealt with as per the provisions of these regulations.*

Discussion Points

It may not be technically or operationally feasible for the generators to ensure zero deviation all the time, However, the effort of all the grid connected entities should be to adhere to and not deviate from the schedule.

Basic philosophy of the DSM Regulations 2022 is that all grid connected entities shall adhere to their schedules and deviation, if any, shall be managed by the system operator through ancillary services and charges for such deviation shall be governed by the DSM Regulations.

When the grid is managed by the operator through the deployment of Ancillary Services, it becomes incumbent on the operator to pay for the Ancillary Services procured from the Deviation and Ancillary Service Pool Account. However, during the transition period the DSM charge is already linked to the market price.

Computation
of
Deviation

Computation of Deviation

Deviation under the DSM Regulations shall be computed with reference to the schedule or revised schedule finalised as per the Grid Code.

- Three categories are listed - General Seller, WS Seller & buyer

1. Deviation in MWh = Actual injection Minus Scheduled Generation in MWh for both general sellers and Wind & Solar Sellers.

Deviation-general seller (in MWh) and WS Seller = [(Actual injection in MWh) – (Scheduled generation in MWh)].

2. Deviation in % computed,

- **Deviation in MWh/Scheduled Generation in MWh for General Sellers and**

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

- **Deviation in MWh/ Available Capacity in MWh for Wind & Solar Sellers.**

Deviation-WS seller (in %) = 100 x [(Actual Injection in MWh) – (Scheduled generation in MWh)] / [(Available Capacity)].

- **#Available Capacity is the cumulative capacity rating of the wind turbines/ solar inverters that are capable of generating power in a given time block.**

3. Deviation in MWh for buyers = Actual drawal minus Scheduled drawal in MWh

Deviation in a time block for buyers : Deviation- buyer (in MWh) = [(Actual drawal in MWh) – (Scheduled drawal in MWh)].

Deviation in % computed as Deviation in Mwhr/Scheduled drawal in MWh

Deviation- buyer (in %) = 100 x [(Actual drawal in MWh) – (Scheduled drawal in MWh)] / [(Scheduled drawal in MWh)].

Normal Rate of Charges for Deviations

Normal Rate of Charges for Deviations

- The DSM charge computation is based on **(modified from the earlier method based on grid frequency)**
 - the principle that Ancillary Services (AS) would be deployed to manage deviation and
 - the costs towards deployment of AS would be recovered from the causers of deviation.
- The normal rate of charges for deviation for a time block shall be equal to
 - the Weighted Average AS Charges (in paise/kWh rounded off to the nearest two decimals).
 - 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:
- Provided that for a **period of one year from the date of effect** of these regulations or such further period as may be notified by the Commission, the normal rate of charges for deviation for a time block shall be equal to the **highest of**
 - the weighted average Area Clearing Price (**ACP**) of the Day Ahead Market (**DAM**) segments of all the Power Exchanges; **or**
 - the weighted average ACP of the Real Time Market (**RTM**) segments of all the Power Exchanges; **or**
 - the **Weighted Average Ancillary Service Charge** of all the regions] for that time block:
- Provided further that in case of non-availability of ACP for any time block on a given day, ACP for the corresponding time block of the last available day shall be considered:
- As such, no capping is allowed to avoid under-recovery of costs towards ancillary services.

Charges for Deviation

Charges for Deviation

- Normal Charges for Deviation is **Average Ancillary Service Charges** for that time block.
- For the first year, **highest** of Area clearing Price (ACP) of Day Ahead Market (DAM) or Real Time Market (RTM) or weighted Average Ancillary Service charge of that Block.
- Reference charge rate for Deviation is the
 - **Energy charge for the stations** whose tariff is as per Sec 62 or 63.
 - For others daily average ACP of Power Exchanges.

DSM charges for normal seller – for under_injection

Upto 2% normal DSM charges,

- 110% of normal DSM charges beyond 2% to 10% of deviation and
- 150% normal DSM charges for deviation beyond 10%

for over_injection, i. upto 2%, Charges for Deviation is Zero, Seller get paid @ reference charge rate (Energy Charge Rate) for over_injection upto 2%

- beyond 2%, 10% of normal DSM charges.

DSM charges Wind Solar Seller -ZERO for entire Over_injection and upto 10% of under_injection,

- 10% of DSM charges for deviation beyond 10% of under_injection. Entity has to payback shortfall in energy due to under_injection at contracted rate(Tariff), or @ACP of Day Ahead Market.
- Entity will get paid at contract rate upto 5% over_injection and at 90% contract rate for over_injection beyond 5% and upto 10% of over_injection.

DSM charges for Buyer:

For overdrawal Upto 10% normal DSM charges,

- beyond 10% upto 50%, 110% of DSM charges,
- Beyond 50%, 150% of DSM charges.

For under drawl DSM charges is Zero.

- will get paid at 90% normal DSM charges for under drawal upto 10% or 100MW whichever is lower.
- at 50% of normal DSM charges for 10 to 15% or 200 to 300 MW under_injection.
- Buyer is classified as RE Rich or not and Schedule with less or more than 400 MW.

Charges for Deviation

Charges for Deviation

DSM charges RoR (Run of River) Seller

-ZERO for entire Over_injection,

Entity will get paid at reference charge rate upto 2% over_injection

Under injection

- Upto 2%, at reference charge rate, DSM charges for deviation beyond 2% to 10% of under_injection.
- 110% of DSM charges beyond 10% of over_injection.

DSM charges Municipal Solid Waste based Seller

-ZERO for entire Over_injection,

Entity will get paid at contract rate (if not at ACP) upto 20% over_injection

Under injection

- **Upto 20% -Zero Charges**
- Entity has to payback shortfall in energy due to under_injection at contracted rate(Tariff), or @ACP of Day Ahead Market.
- DSM charges for deviation beyond 20% of under_injection.

DSM charges for Buyer (Schedule less than 400 MW)

For Overdrawal Upto 20% or 40 MW whichever is lower - normal DSM charges,

- beyond lowest of 20% or 40 MW - 120% of DSM charges,

For under drawl DSM charges is Zero.

- will get paid back at 90% normal DSM charges for under drawal upto 20% or 40 MW whichever is lower.

DSM charges for Buyer (Being RE rich State)

For Overdrawal Upto 20% or 40 MW whichever is lower - normal DSM charges,

- beyond lowest of 20% or 40 MW - 120% of DSM charges,

For under drawl DSM charges is Zero.

- will get paid back at 90% normal DSM charges for under drawal upto 10% or 200 MW whichever is lower.
- will get paid back at 50% normal DSM charges for under drawal beyond 10% or 200 MW and upto 15% or 300 MW whichever is lower.



Charges for Deviation

Charges for Deviation

Other Provisions for Infirm Power, Startup, Cross Border Trade

Infirm Power

- The charges for deviation for injection of infirm power shall be zero.

Startup

- The charges for deviation for drawal of start-up power before COD of a generating unit or for drawal of power to run the auxiliaries during shut-down of a generating station shall be payable at the normal rate of charges for deviation

Cross Border Trade

- The charges for inter-regional deviation and for deviation in respect of cross-border transactions, caused by way of over-drawal or under-injection shall be payable at the normal rate of charges for deviation.

Accounting of
Charges for
Deviation and
Ancillary
Service Pool
Account

Accounting of Charges for Deviation and Ancillary Service Pool Account

- (1) The payment of charges for deviation shall have a high priority and the concerned regional entity
 - shall pay the due amounts within 7 (seven) days of the issue of statement of charges for deviation by the Regional Power Committee,
 - failing which late payment surcharge @ 0.04% shall be payable for each day of delay.
- (2) Any regional entity which at any time during the previous financial year fails to make payment of charges for deviation within the time specified in these regulations, shall be required to open a Letter of Credit (LC) equal to 110% of their average payable weekly liability for deviations in the previous financial year in favour of the concerned Regional Load Despatch Centre within a fortnight from the start of the current financial year.
- (3) In case of failure to pay into the Deviation and Ancillary Service Pool Account within 7 (seven) days from the date of issue of statement of charges for deviation, the Regional Load Despatch Centre shall be entitled to encash the LC of the concerned regional entity to the extent of the default and the concerned regional entity shall recoup the LC amount within 3 days.

Schedule of Payment of charges for deviation

Schedule of Payment of charges for deviation

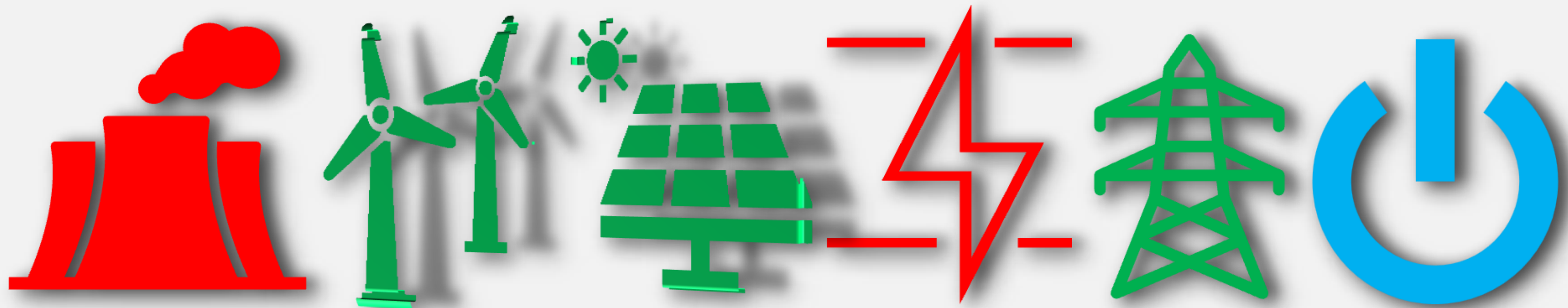
- (1) By every Thursday, the Regional Load Despatch Centres shall provide the data for deviation calculated as per Regulation 6 of these regulations, for the previous week ending on Sunday mid-night to the Secretariat of the respective Regional Power Committees.
- (2) After receiving the data for deviation from the Regional Load Despatch Centre, the Secretariat of the Regional Power Committee shall prepare and issue the statement of charges for deviation prepared for the previous week, to all regional entities by ensuing Tuesday: 9 Provided that transaction-wise DSM accounting for intra-State entities shall not be carried out at the regional level.
- (3) Separate books of accounts shall be maintained for the principal component and interest component of charges for deviation by the Secretariat of the Regional Power Committees.
- (4) There shall be a Deviation and Ancillary Service Pool Account to be maintained and operated by the Regional Load Despatch Centre for the respective region: Provided that the Commission may by order direct any other entity to operate and maintain the Deviation and Ancillary Service Pool Account.
- (5) The Deviation and Ancillary Service Pool Account shall receive credit for:
 - (1) (a) payments on account of charges for deviation referred to in Regulation 8 of these regulations and the late payment surcharge as referred to in Regulation 10 of these regulation;
 - (2) (b) payments made by:
 - (1) (i) SRAS Provider for the SRAS-Down despatched under the Ancillary Services Regulations;
 - (2) (ii) TRAS Provider for the TRAS-Down despatched under the Ancillary Services Regulations; and
 - (3) (iii) such other charges as may be notified by the Commission.
 - (4) (6) Deviation and Ancillary Service Pool Account shall be charged for:
 - (1) (a) payment to seller for over injection as referred to in clause (1) of Regulation 8 of these regulations;
 - (2) (b) payment to buyer for under drawal as referred to in clause (2) of Regulation 8 of these regulations;
 - (3) (c) the full cost of despatched SRAS-Up including the variable charge or the energy charge or the compensation charge, as the case may be, for every time block on a regional basis as well as the incentive for SRAS, payable to the concerned SRAS Provider as referred in the Ancillary Services Regulations;
 - (4) (d) the full cost towards TRAS-Up including the charges for the quantum cleared and despatched and the commitment charge for the quantum cleared but not despatched as referred in the Ancillary Services Regulations; and
 - (5) (e) such other charges as may be notified by the Commission.
 - (6) (7) In case of deficit in the Deviation and Ancillary Service Pool Account of a region, surplus amount available in the Deviation and Ancillary Service Pool Accounts of other regions shall be used for settlement of payment under clause (6) of this Regulation: Provided that in case the surplus amount in the Deviation and Ancillary Service Pool Accounts of all other regions is not sufficient to meet such deficit, the balance amount shall be recovered through the RLDC Fees and Charges.

- (a) 'Act' means the Electricity Act, 2003 (36 of 2003);
- (b) 'actual drawal' in a time block means the electricity drawn by a buyer, measured by the interface meters;
- (c) 'actual injection' in a time block means the electricity injected by the seller, measured by the interface meters;
- (d) 'Ancillary Services' means the Ancillary Services as defined in the Ancillary Services Regulations
- (e) 'Ancillary Services Regulations' means the Central Electricity Regulatory Commission (Ancillary Services Operations) Regulations, 2015 as amended from time to time and shall include any re-enactment thereof;
- (f) 'Area Clearing Price' or 'ACP' means the price of electricity contract for a timeblock transacted on a Power Exchange after considering all valid buy and sale bids in particular area(s) after market-splitting;
- (g) 'Available Capacity' for generating station based on wind or solar or hybrid of windsolar resources which are regional entities, is the cumulative capacity rating of wind turbines or solar inverters that are capable of generating power in a given time block;
- (h) 'Buyer' means a person purchasing electricity through a transaction scheduled in accordance with the Grid Code;
- (i) 'Commission' means the Central Electricity Regulatory Commission referred to in sub-section (1) of Section 76 of the Act;
- (j) 'Contract rate' means the tariff for sale or purchase of power, as determined under Section 62 or adopted under Section 63 or approved under Section 86(1)(b) of the Act by the Appropriate Commission or the price as discovered in the Power Exchange, as the case may be;
- (k) 'Deviation' in a time block for a seller of electricity means its total actual injection minus its total scheduled generation; and for a buyer of electricity means its total actual drawal minus its total scheduled drawal, and shall be computed as per Regulation 6 of these regulations;
- (l) 'Deviation and Ancillary Service Pool Account' means the Account to be maintained and operated by the concerned Regional Load Despatch Centre in each region as per Regulation 9 of these regulations;
- (m) 'General seller' means a seller in case of a generating station based on other than wind or solar or hybrid of wind-solar resources
- (n) 'Grid Code' means the Grid Code specified by the Commission under clause (h) of sub-section (1) of Section 79 of the Act;
- (o) 'Interface meters' means interface meters as defined under the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006, as amended from time to time and any re-enactment thereof;
- (p) 'Load Despatch Centre' means National Load Despatch Centre, Regional Load Despatch Centre or State Load Despatch Centre, as the case may be;
- (q) 'Normal Rate of Charges for Deviation' means the charges for deviation (in paise/kWh) as referred to in Regulation 7 of these regulations;
- (r) 'Open Access Regulations' means the Central Electricity Regulatory Commission (Open Access in inter-State Transmission) Regulations, 2008 as amended from time to time and shall include any re-enactment thereof;
- (s) 'Regional Entity' means a person whose metering and energy accounting are done at the regional level by Regional Load Despatch Centre;
- (t) 'Renewable Rich State' or 'RE-rich State' means a State whose combined installed capacity of solar and wind generating stations under the control area of the State is 1000 MW or more;
- (u) 'Reference Charge Rate' means (i) in respect of a general seller whose tariff is determined under Section 62 or Section 63 of the Act, Rs/ kWh energy charge as determined by the Appropriate Commission, or (ii) in respect of a general seller whose tariff is not determined under Section 62 or Section 63 of the Act, the daily weighted average ACP of the Day Ahead Market segments of all the Power Exchanges, as the case may be;
- (v) 'RLDC Fees and Charges' means the fees and charges as specified under the Central Electricity Regulatory Commission (Fees and Charges of Regional Load Despatch Centre and other related matters) Regulations, 2019 as amended from time to time and shall include any re-enactment thereof;
- (w) 'Run-of-River Generating Station' or 'RoR generating station' means a hydro generating station which does not have upstream pondage;
- (x) 'Scheduled generation' or 'Scheduled injection' for a time block or any period means the schedule of generation or injection in MW or MWh ex-bus including the schedule for Ancillary Services given by the concerned Load Despatch Centre;
- (y) 'Scheduled drawal' for a time block or any period means the schedule of drawal in MW or MWh ex-bus including the schedule for Ancillary Services given by the concerned Load Despatch Centre;
- (z) 'Seller' means a person, including a generating station, supplying electricity through a transaction scheduled in accordance with the Grid Code;
- (aa) 'Time Block' means the time block as defined in the Grid Code;
- (bb) 'WS seller' means a seller in case of a generating station based on wind or solar or hybrid of wind-solar resources.



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