



TAMIL NADU
GOVERNMENT GAZETTE
PUBLISHED BY AUTHORITY

No. 12]

CHENNAI, WEDNESDAY, MARCH 20, 2019
Panguni 6, Vilambi, Thiruvalluvar Aandu-2050

Part VI—Section 2

**Notifications of interest to a section of the public
issued by Heads of Departments, etc.**

NOTIFICATIONS BY HEADS OF DEPARTMENTS, ETC.

CONTENTS

	<i>Pages.</i>
TAMIL NADU ELECTRICITY REGULATORY COMMISSION CHENNAI.	
Tamil Nadu Electricity Regulatory Commission (Forecasting, Scheduling and Deviation settlement and Related Matters for Wind and Solar Generation) Regulations, 2019.	40-50
Tamil Nadu Electricity Regulatory Commission (Deviation settlement Mechanism and Related Matters) Regulations, 2019..	50-63

NOTIFICATIONS BY HEADS OF DEPARTMENTS, ETC.

TAMIL NADU ELECTRICITY REGULATORY COMMISSION CHENNAI.

TAMIL NADU ELECTRICITY REGULATORY COMMISSION (FORECASTING, SCHEDULING AND DEVIATION SETTLEMENT AND RELATED MATTERS FOR WIND AND SOLAR GENERATION) REGULATIONS, 2019

(Notification No. TNERC/F&S Wind & Solar/21-1 dt. 01.03.2019)

No.VI (2)/32/2019

In exercise of the powers conferred by Sections 86(1) and 181(2)(zp) read with Sections 32 and 33 of the Electricity Act, 2003(Central Act 36 of 2003) and all other powers enabling it in this behalf, the Tamil Nadu Electricity Regulatory Commission hereby makes the following Regulations, the draft of the same having been previously published, as required under sub-section (3) of the said Section 181.

REGULATIONS

1. Short Title, Commencement and Extent

1.1 These Regulations may be called the “Tamil Nadu Electricity Regulatory Commission (Forecasting, Scheduling and Deviation Settlement and related matters for Wind and Solar Generation) Regulations, 2019”.

1.2 These Regulations except provisions relating to commercial arrangements and the provisions regarding Deviation charges and penalty shall come into force from the date of publication in the *Tamil Nadu Government Gazette*:

Provided that the provisions relating to Commercial Arrangements and the provisions regarding Deviation Charges and penalty, shall come into force six months after the commencement of these Regulations.

2. Definitions

2.1 In these Regulations, unless the context otherwise requires,

- (a) “**Absolute Error**” means the difference between the actual generation injected and the scheduled generation of Wind or Solar Energy Generators in relation to their Available Capacity (AvC) in each time block, and may be computed in percentage terms by applying the following formula:

$$\text{Absolute Error (\%)} = 100 \times \frac{[\text{Actual Generation} - \text{Scheduled Generation}]}{\text{AvC}}$$

- (b) “**Act**” means the Electricity Act, 2003 (36 of 2003), as amended from time to time;
- (c) “**Actual Drawal**” in a time block means the electricity drawn by a Procurer, as measured by the interface meters;
- (d) “**Actual Injection/Generation**” in a time block means the electricity generated and injected into the Grid by a Generator, as measured by the interface meters;
- (e) “**Available Capacity**” (or “**AvC**”) of Wind or Solar Energy Generators means the cumulative capacity rating of the Wind turbines or Solar inverters that are capable of generating power in a given time block;
- (f) “**Central Commission**” means the Central Electricity Regulatory Commission constituted under sub-section (1) of Section 76 of the Act,2003;
- (g) “**Collective transactions**” shall have the same meaning as in the Indian Electricity Grid Code specified by the Central Electricity Regulatory Commission;
- (h) “**Commission**” means the Tamil Nadu Electricity Regulatory Commission constituted under sub-section(1) of Section 82 of the Act,2003;
- (i) “**De-Pooling**” means the disaggregation and apportionment of the deviations and the applicable charges among the Generators at a Pooling Sub-Station;
- (j) “**Deviation**” in a time block means the difference between the actual injection of energy and scheduled generation;
- (k) “**Forecasting**” means the projection of likely future electricity generation based on scientific analysis of meteorological data and other relevant parameters;

- (l) **“Gaming”** in relation to these regulations, shall mean an intentional mis-declaration of available capacity or schedule by any generator in order to make an undue commercial gain through Charges for Deviation.
- (m) **“Grid Code”** means the State Grid Code specified by the Commission under Section 86(1) (h) of the Act;
- (n) **“Indian Electricity Grid Code” (or “IEGC”)** means the Grid Code specified by the Central Electricity Regulatory Commission under Section 79(1)(h) of the Act;
- (o) **“Interface Meter”** means interface meters as defined by the Central Electricity Authority under the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006, as amended from time to time;
- (p) **“Inter-connection point”** means the interface point of a generation facility with the transmission or distribution system, in relation to a Wind or Solar Energy facility, and shall mean the line isolator on the incoming feeder on the Low Voltage (LV) side of the Pooling sub-station, for the purposes of these Regulations;
- (q) **“Pooling Sub-Station”** means a sub-station consisting of a step-up transformer and associated switchgear to the Low Voltage (LV) side of which several Wind or Solar Energy Generators are connected:
- Provided that, where a Generating Unit is connected through a common or an individual feeder terminating at a Sub-Station of a Distribution Licensee, or the State Transmission Utility, such Sub-Station shall be treated as the Pooling Sub-Station for such Wind or Solar Energy Generator for the purposes of these Regulations;
- (r) **“Procurer”** means a person, including a Distribution Licensee, Trading Licensee or an Open Access consumer, procuring electricity through a transaction scheduled in accordance with the Regulations governing Open Access;
- (s) **“Qualified Co-ordinating Agency” (or “QCA”)** means the agency appointed by the Wind or Solar Energy Generators connected to a Pooling Sub-Station, or by an individual Generator connected directly to a sub-station, to perform the functions and discharge the obligations specified in these Regulations;
- (t) **“Scheduled Generation”** for a time block or other time period, means the Schedule of generation in MW or MWh ex-bus provided by the State Load Despatch Centre;
- (u) **“Scheduled Drawal”** for a time block or other time period means the Schedule of despatch in MW or MWh ex-bus provided by the State Load Despatch Centre;
- (v) **“State Deviation Pool Account (Wind and Solar)”** means the State Account for receipts and payments on account of deviations by Wind and Solar Energy Generators;
- (w) **“State Deviation Pool Account (DSM)”** means the State Account maintained by the State Load Despatch Centre for receipts and payments on account of deviations by buyers and sellers;
- (x) **“State Entity”** means such person who is in the SLDC control area and whose metering and energy accounting is done at the State level;
- (y) **“State Load Despatch Centre” (or “SLDC”)** means the Load Despatch Centre of Tamil Nadu established under Section 31(1) of the Act and responsible for coordinating the scheduling of the State Entities in accordance with the provisions of the State Grid Code;
- (z) **“Time block”** means a period of 15 minutes or any such shorter duration as may be notified by Central Commission and State Commission for which specified electrical parameters and quantities are recorded by a Special Energy Meter, with the first time block starting at 00.00 hrs., or such other period as the Commission may stipulate.

Words or expressions used and not defined in these Regulations shall have the meaning assigned to them in the Act, or the Rules or other Regulations framed thereunder.

PART A

GENERAL

3. Objective

- 3.1. These Regulations are intended to facilitate Grid integration of Wind and Solar energy generated in Tamil Nadu while maintaining Grid stability and security as envisaged under the State Grid Code and the Act, through forecasting, scheduling and a mechanism for the settlement of deviations by such Generators.

- 3.2. In order to maintain system security, stability and reliability, the SLDC shall take into consideration the forecasts of Wind and Solar generation for Week-Ahead, Day-Ahead and intra-Day operations and scheduling, and longer term forecasts for its planning.
- 3.3. The SLDC shall make use of the flexibility provided by conventional Generating Units and the capacity of inter-Grid tie-lines to accommodate Wind and Solar energy generation to the largest extent possible subject to Grid security.

4. Applicability

- 4.1 These Regulations shall apply to all Wind and Solar Energy Generators (excluding Rooftop PV Solar power projects) in Tamil Nadu connected to the Intra-State Transmission System or Distribution System, including those connected through Pooling sub-stations, and using the power generated for self-consumption or sale within or outside the State.
- 4.2 The Commission shall review these Regulations including formulation for Absolute Error, Accuracy Band and Deviation charge thereof after two years, or earlier if it considers necessary.

PART B

TECHNICAL ARRANGEMENTS: FORECASTING AND SCHEDULING CODE

5. Forecasting and Scheduling Code

- 5.1. This Forecasting and Scheduling Code specifies the methodology for Day-Ahead scheduling of Wind and Solar Energy Generators connected to the intra-State Transmission Network (Transmission and Distribution system), its revisions on a one and a half hourly basis, and the treatment of their deviations from such Schedules. Wind and Solar generators, either by themselves or represented by Qualified Coordinating Agencies shall comply with the requirements of forecasting and scheduling code as stipulated under these Regulations.
- 5.2. The Wind and Solar Energy Generators at each Pooling sub-station shall appoint a QCA.
 Provided that an individual Generator connected to a sub-station that is designated as a Pooling sub-station as defined in 2(q) of this regulation may opt to function as a QCA on its own or appoint a separate entity as its QCA.
 Provided that the wind/solar generators of the Pooling sub-station(s) having aggregate capacity upto 25 MW may aggregate their forecast, schedule with the QCA of the nearest Pooling sub-station.
 Provided further that, such wind/solar generators shall obtain concurrence of SLDC. The decision of SLDC in this regard shall be binding on the wind/solar generators.
- 5.3. The QCA(s) shall be treated as State Entity.
- 5.4. Every QCA shall be registered with the SLDC in accordance with the Detailed Procedure prescribed in pursuance of Regulation 5(22).
- 5.5. Notwithstanding the appointment of a QCA, the onus of complying with the relevant provisions of these Regulations shall remain that of the concerned Generators, and the commercial and other arrangements between the Generators and their QCA shall be governed by their inter-se agreements or terms of engagement.
- 5.6. The QCA shall be appointed by the Generators for the purposes specified in these Regulations, including but not limited to the following,
 - (a) Meter reading and data collection and its communication, and co-ordination with the Distribution Licensees, the SLDC and other agencies;
 - (b) De-pooling of Deviation Charges within the constituent Generators of the Pooling sub-station and settlement of payments/receivables.
 - (c) Settlement of the Deviation Charges specified in these Regulations with the SLDC on behalf of the Generators.
- 5.7. The QCA shall be the Nodal Agency between the SLDC and its Generators for the purposes of these Regulations.
- 5.8. The QCA shall furnish the technical specifications of the Generators whom it represents to the SLDC in the prescribed format, at the time of its registration or within such period thereafter as may be stipulated by the SLDC in its Detailed Procedure, and also furnish details whenever there is a change in these specifications.

- 5.9. The QCA shall provide real-time data relating to the power generation parameters and weather-related data, as may be required to the SLDC.
- 5.10. Meters shall be installed for energy accounting in accordance with the relevant provisions of the Central Electricity Authority (CEA) Regulations and its amendments, governing metering, along with telemetry/ communication and Data Acquisition Systems for the transfer of information to the SLDC by the QCA.
- 5.11. The QCA shall furnish to the SLDC aggregated forecasts relating to its Wind Energy Generators and Solar Energy Generators connected to intra-State system and contracts undertaken for sale of power intra-State or inter- State, as the case may be, separately, in the formats specified for each type of source and intra/inter State transaction.
- 5.12. The SLDC shall also undertake forecasting of the Wind and Solar energy generation expected to be injected into the intra-State Transmission network at each location, by engaging forecasting agencies if required, so as to enable it to better plan for the balancing resources required for secure Grid operation.
- 5.13. The QCA shall aggregate the Schedules of all Wind Generators and Solar generators connected to a Pooling sub-station separately, and communicate to the SLDC.
- 5.14. A QCA may undertake forecasting and scheduling for multiple pooling substations. However, scheduling, energy accounting and deviation monitoring for each pooling sub-station of wind and solar power generation shall be undertaken separately.
- 5.15. No Wind or Solar energy generation shall be despatched by the SLDC without schedule by the QCA on behalf of the Generators in accordance with the provisions of these Regulations.
- 5.16. The QCA may adopt the forecast of the SLDC for preparing its Schedule or provide SLDC with a Schedule based on its own forecast, which shall be the reference Schedule for the purposes of deviation determination and settlement:
Provided that, if the QCA opts to adopt the forecast of the SLDC, the consequences of any error in such forecast which results in deviations from scheduling shall be borne by the concerned Generators through their QCA.
- 5.17. The SLDC shall recover such charges as may be approved by the Commission for providing its forecasting services to the QCA and the amount so recovered shall be treated as 'other income' in the Aggregate Revenue Requirement of the SLDC for the determination of its Fees and Charges.
- 5.18. The QCA shall provide to the SLDC a Day-Ahead and a Week-Ahead Schedule for each Pooling sub-station to enable it to assess the Availability of energy and the margin available in the State Grid.
- 5.19. The Day-Ahead Schedule shall comprise of the Wind or Solar energy generation to be scheduled in each 15-minute time block starting from 00:00 hours of the following day, and for all 96 time blocks of that day and the Week-Ahead Schedule shall contain the same information for the next seven days.
- 5.20. (a) The QCA may revise the Schedule of Generators connected to the Intra-State Transmission Network (excluding collective transactions) by giving advance notice to the SLDC.
(b) Such revisions shall be effective from the 4th time block following the time block in which notice was given.
(c) There may be one revision for each time slot of one and half hours starting from 00.00 hours of a particular day, subject to a maximum of 16 revisions during the day.
- 5.21 The plan for data telemetry, formats of forecast submission and other modalities and requirements shall be stipulated in the Detailed Procedure to be submitted by the SLDC within three months, which the Commission shall endeavour to approve within a month thereafter.
Provided that, SLDC shall undertake stakeholder consultation by uploading the Draft procedure on SLDC's website before submission of procedure to the Commission for approval.
- 5.22 The Detailed Procedure mentioned in sub – regulation (21) shall contain the following:**
- (a) The procedure and requirements, including the payment of fees and penalties, for the registration and de-registration of QCAs by the SLDC.
- (b) The information and data, and the formats, required by the SLDC from the QCAs and to be provided by the SLDC to them.

- (c) The mode and protocol of communication for exchange of information and data between the QCAs and the SLDC.
 - (d) The guidelines for energy and deviation accounting of Wind and Solar energy transactions under the State energy accounting framework, with illustrative examples, in accordance with the principles specified in these Regulations.
 - (e) The mechanism for monitoring compliance of the Forecasting and Scheduling Code by the QCAs.
 - (f) The default conditions in the State Pool Settlement by QCAs and their treatment.
- 5.23 The commercial impact of deviations from Schedules based on the forecasts shall be borne by the Generators through their QCAs.
- 5.24 The State entities shall operate their equipments and loads in a manner that is consistent with the provisions of the Indian Electricity Grid Code and the Tamil Nadu Electricity Grid Code.

5.25 Treatment to Gaming

- (a) Any intentional mis-declaration of Available Capacity to the SLDC by the QCA for its own undue commercial gain or that of a Generator shall be considered as gaming and shall constitute a breach of these Regulations.
- (b) Upon identification of gaming by SLDC, the QCA shall be liable to pay a penalty of three times the Deviation Charges that would have been applicable had the Available Capacity been correctly declared.
- (c) The amount of penalty shall be payable by the QCA to the State Deviation Settlement Mechanism (DSM) Pool, through the SLDC.
- (d) The SLDC may, after giving due notice, as stipulated in the Detailed Procedure, cancel the registration of the QCA upon repeated events of mis-declaration.

6. Principles of appointment of QCA

- 6.1. The Generators connected to each Pooling sub-station shall appoint a person as QCA from among themselves or any other entity as a QCA.
- 6.2. The QCA shall be appointed with the approval of majority of the Generators at a Pooling sub-station, in terms of their combined installed capacity, and on appointment with majority, the QCA shall perform all functions assigned in these Regulations for all generators connected to the Pooling sub-station.
- 6.3. The Generators shall satisfy themselves that the QCA is technically and financially competent to undertake on their behalf the functions and discharge the obligations specified in these Regulations.
- 6.4. The terms of engagement of the QCA shall include provisions on the following aspects:
 - (a) The respective roles and responsibilities of the QCA and Generators;
 - (b) The metering, billing and energy accounting arrangements;
 - (c) The modalities for recovery of Deviation Charges from the Generators and their settlement, including the principles for de-pooling;
 - (d) The payment security mechanism and related provisions;
 - (e) The events of default and their mitigation.

PART C

COMMERCIAL ARRANGEMENTS

7. Deviation Settlement for Intra-State Transactions

- 7.1 The sale of power within Tamil Nadu by Wind and Solar Energy Generators connected to the Intra-State Transmission Network shall be settled by the Procurers on the basis of their actual generation, and the Deviation Settlement shall be undertaken as specified in these Regulations.

A Generator who deviates from its given Schedule shall be liable to pay a Deviation Charge under the provisions of these Regulations.

7.2 In respect of sale or self-consumption of power within Tamil Nadu, if the actual injected generation of wind or solar power at a Pooling sub-station, differs from the scheduled generation, the Deviation Charge for the excess or shortfall shall be payable by the QCA to the "State Deviation Pool Account (Wind and Solar)", through the SLDC, as specified in Table 1 below:

Table 1: Deviation Charge for under- or over-injection, for sale or self-consumption of power within Tamil Nadu

S.No.	Absolute Error in %age terms in 15-minute time block	Deviation Charge payable to State Deviation Pool Account(Wind and Solar)
1	< = 10%	None
2	>10% but <=20%	At Rs. 0.25 per unit
3	>20% but <=30%	At Rs. 0.25 per unit for the shortfall or excess beyond 10% and upto 20% + Rs. 0.50 per unit for the balance energy beyond 20% and upto 30%
4	>30%	At Rs. 0.25 per unit for the shortfall or excess beyond 10% and upto 20% + Rs. 0.50 per unit for the shortfall or excess beyond 20% and up to 30% + Rs. 1.00 per unit for the balance energy beyond 30%

7.3. The SLDC and the QCA shall maintain records and accounts of the time block-wise Schedules, the actual generation injected and the deviations, for every Pooling sub-station and the individual Generators separately.

7.4. The QCA shall undertake de-pooling of the energy deviations and the Deviation Charges against each Generator at the Pooling sub-station as specified in Regulation 14.

7.5. The QCA shall undertake the settlement of the Deviation Charges with the SLDC on behalf of the concerned Generators.

The total deviation charges remitted on account of deviations by a wind/solar generator(s) through QCA into State Deviation Pool Account (Wind and Solar) in a financial year shall be capped at the Ceiling Rate of 5 paise per unit or such other rate as may be stipulated by the Commission through separate Order, multiplied by the total annual generation at the respective Pooling sub-station(s). Any excess amount of deviation charges remitted beyond the capped amount as per deviation account statement over the financial year shall be refunded or credited to the account of the concerned QCA and refunded to the RE-generator(s) through the respective QCA in the subsequent settlement period(s) at the end of the financial year without interest.

8. Deviation Settlement for Inter-State Transactions

8.1 The sale of power outside Tamil Nadu by Wind and Solar Energy Generators connected to the Intra-State Transmission system or Distribution system shall be settled by the Procurers on the basis of their scheduled generation.

8.2 Inter-State transactions at a Pooling sub-station shall be permitted only if the concerned Generator is connected through a separate feeder.

8.3 Generator intending to enter inter-state transaction shall submit, through the QCA, a separate Schedule for its energy generation, in accordance with these Regulations, to the SLDC and the concerned Regional Load Despatch Centre (RLDC).

- 8.4 The SLDC shall prepare the deviation settlement account for such Generator on the basis of measurement of the deviation in the energy injected.
- 8.5 The Deviation Charges for under-injection by Generators connected to the Intra-State Transmission Network and selling power outside Tamil Nadu shall be as specified in the **Annexure** to these Regulations, the accounting for which shall be done by the SLDC.

9. Deviation Settlement for Inter- and Intra- State transactions: other provisions

- 9.1 Deviations in respect of Inter-State and Intra-State transactions for each source of RE *i.e.* wind and solar Generation shall be accounted for separately at each Pooling Sub-Station.
- 9.2 The SLDC shall provide separate energy and Deviation Accounts for Inter-State and Intra-State transactions in respect of wind and solar Generation to the QCA, who shall settle the Deviation Charges with the concerned Generators.

PART D

IMPLEMENTATION ARRANGEMENTS

10 Metering

- 10.1 Every Pooling Sub Station shall have a Special Energy Meter (SEM) capable of recording the energy in time blocks as specified in the CEA Regulations governing metering. The meters shall be time synchronised through command instruction from the centralised Automated Meter Reading system.
- 10.2 The QCA shall furnish weekly meter readings to the SLDC by 00.00 hours on the Thursday for the seven day period ending on the previous Sunday mid night, in addition to the data provided to the Supervisory Control and Data Acquisition (SCADA) Centre, for the purpose of energy accounting under these Regulations.

11 Communication of QCA with SLDC

- 11.1 The Detailed Procedure prescribed by the SLDC shall set out the protocol for communication and exchange of information between the QCA and the SLDC, including but not limited to the following aspects:
- a) Communication of the Day-Ahead, Week-Ahead Schedule and intra-Day schedule and any revisions to the SLDC.
 - b) Communication of the time block-wise availability and actual generation data at the Pooling Sub-Station.
 - c) Communication of Grid constraints and curtailments by the SLDC to the QCA.
- 11.2 The SLDC shall equip itself with the necessary Information Technology (IT)-enabled communication platform and software for communication between it and the QCA.
- 11.3 The QCA shall provide the IT-enabled communication software log-in details to enable the SLDC to access live data of all Schedules and deviations and facilitate the timely billing and payment of Deviation Charges. The QCA shall use automatic meter reading facilities for transfer, analysis and processing interface meter data of the generators.
- 11.4 The IT-enabled communication platform and software should enable the SLDC and QCA to exchange information, including but not limited to the following:
- i. Generator outages and their reasons;
 - ii. Deviation Charges payable/receivable by the QCA;
 - iii. Site characteristics and details of the Wind Turbines, Solar Inverters, etc.;
 - iv. Schedules and generation handled by the QCA.

12 Deviation Accounting

- 12.1 The methodology for deviation settlement for the State shall be as follows:

- a) The SLDC shall compute the Absolute Error, i.e. the difference between the scheduled and the actual energy injected, in respect of each Pooling Sub-Station and shall accordingly determine the amounts payable/receivable on account of the Deviation Charge in accordance with Regulations 7 and 8.
- b) The Deviation Charges payable or receivable for the State as a whole at the State periphery shall be computed by the SLDC.
- c) The SLDC shall also compute the impact of the deviation of the Wind and Solar Energy Generation and its contribution to the Deviation Charge at the State periphery and maintain State Deviation Pool Account (Wind and Solar) separately for the same.

12.2 Settlement of Deviation Charges

- a) The SLDC shall compute the deviations from the Schedule, determine the Deviation Charges payable/receivable and bill the QCA accordingly.

12.3 The charges collected in the State Deviation Pool (wind and solar) shall be utilised to offset the shortfall in the State Deviation Pool Account (DSM).

13 Payment Mechanism for Deviation Settlement and Payment security

13.1 Every QCA shall pay the total amount of Deviation Charges pertaining to the Pooling Sub station to the SLDC, and collect it from the concerned Generators in proportion to their actual generation:

Provided that the onus of ensuring the payment of the Deviation Charges to the SLDC by the QCA shall remain that of the concerned Generators.

13.2 The Deviation Charges shall be paid within ten days from the date of issue of statement of accounts and billing by the SLDC. If payments of the above charges are delayed by more than 2 days *i.e.* beyond 12 days from the date of issue of statement, a simple interest of 0.06% for each day of delay shall be levied. This is without prejudice to any action that may be taken under Section 142 of the Act in addition to any action under Section 56 of the Act and other relevant Regulations.

13.3 The wind/solar energy generator/QCA shall provide payment security through an irrevocable letter of credit(LC) in favour of SLDC on a percent of cost of average monthly generation at feed in tariff for a period of three months. When there is no feed in tariff, the prevailing adopted tariff discovered in bidding in the State and if no bid tariff exists for the year, the tariff obtained in the last of the bidding conducted by State may be taken in place of feed in tariff. The details of the payment security payable shall be covered in the detailed procedure of SLDC to be formulated as per regulation 5.22.

13.4 Notwithstanding levy of interest specified in 13.2 of this regulation, for delay in payment of deviation charges, in case of failure to pay the deviation charges into the State Deviation Pool (wind and solar), the SLDC shall be entitled to encash the LC of the concerned constituent to the extent of default and the concerned constituent shall recoup the LC amount within 3 days.

13.5 All payments to the QCAs/generators entitled to receive any amount on account of charges for deviation shall be made within 2 working days of receipt of payments in the State Deviation Pool Account (wind and solar).

Provided that –

- i. in case of delay in the Payment of Deviation Charges and interest thereon if any, beyond 12 days from the date of issue of the statement of charges for deviations, the QCAs/ generators who have to receive payments for est thereon, shall be paid from the balance available in the State Deviation Pool Account (Wind and Solar). In case the balance available is not sufficient to meet the payments to the QCAs, the payment shall be made on pro rata basis from the balance available.
- ii. The liability to pay interest for the delay in payments to the State Deviation Pool Account (Wind and Solar) shall remain till interest is not paid, irrespective of the fact that QCAs/generators who have to receive payments, have been paid from the State Deviation Pool Account (Wind and Solar) in part or full.

14 De-Pooling of Deviation Charges

The QCA shall de-pool the Deviation Charges against each Generator in proportion to the actual generation by the generators.

15 Intimation of Curtailment

- 15.1 Any curtailment imposed on the energy injection for reliable and secure Grid operation in emergent situations shall be communicated by the SLDC to the QCA through an IT-enabled communication, and no Deviation Charges shall be payable for any consequent deviations if the SLDC fails to do so.
- 15.2 In case of any curtailment planned and communicated by the SLDC due to line maintenance or other reasons in certain time blocks of a day, the QCA shall be responsible for curtailing the generation at site and amending the Schedule accordingly, failing which the SLDC shall revise the Schedule as required.

16 Energy Accounting

- 16.1 The energy accounting shall be undertaken on the basis of the data recorded by the SEM referred to in Regulation 10.1.
- 16.2 All accounts relating to deviations within pooling sub station shall be prepared by the QCA on a weekly basis based on inputs from the SLDC, and be accessible to the SLDC through an IT-enabled system and software.
- 16.3 The SLDC shall furnish the processed data on a weekly basis by Thursday mid-night for the seven-day period ending on the previous Sunday mid-night to the concerned QCA in the prescribed format for the preparation of weekly accounts of energy from the Pooling Sub-Station.
- 16.4 Any discrepancy communicated by the QCA within 15 days shall be corrected forthwith by the SLDC after verification.
- 16.5 The SLDC/Distribution licensee as mutually agreed shall prepare the statement of accounting of energy in each time block for the wind and solar energy generators and the procurers on monthly basis for the purpose of billing. The billing centre of the distribution licensee shall be responsible for energy accounting, raising and settlement of bills with the procurers.
- 16.6 A detailed energy accounting procedure shall be prepared by SLDC and submitted for approval to the Commission after undertaking stakeholder consultation in accordance to regulation 5.22.

PART E**MISCELLANEOUS****17 Power to amend**

The Commission may, at any time vary, modify or amend any provision of these Regulations.

18 Power to remove difficulties

If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by general or specific order, make such provisions not inconsistent with the provisions of the Act, as may appear to be necessary for removing the difficulty.

19 Power to relax

The Commission may by general or special order, for reasons to be recorded in writing, and after giving an opportunity of hearing to the parties likely to be affected by grant of relaxation, may relax any of the provisions of these Regulations on its own motion or on an application made before it by an interested person.

20 Power to Issue Directions

Subject to the provisions of the Act, 2003 and this Regulation, the Commission may, from time to time, issue orders and directions in regard to the implementation of the Regulation and procedure to be followed and various matters which the Commission has been empowered by this Regulation to specify or direct, as may be considered necessary in furtherance of the objective and purpose of this Regulation.

S. CHINNARAJALU,
Secretary,
Tamil Nadu Electricity Regulatory Commission .

ANNEXURE

Framework for Deviation Charges for under- or over-injection by Wind and Solar Generators connected to the Intra-State Transmission network and selling or consuming power outside Tamil Nadu

1. The Deviation Charges in respect of Wind and Solar Energy Generators connected to the Intra-State Transmission Network and selling or consuming power outside Tamil Nadu shall be as follows:
- a) If the actual generation is lower than scheduled, the Deviation Charges for the shortfall shall be payable by the QCA to the State Deviation Pool Account (Wind and Solar) as given in Table A below:

Table A: Deviation Charges in case of under-injection

Sl. No.	%age Absolute Error in 15-minute time block	Deviation Charges payable to State Deviation Pool Account (Wind and Solar)
1	< =10%	At the highest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is higher for the shortfall in energy for Absolute Error upto 10%
2	>10% but <= 20%	At the highest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is higher for the shortfall in energy for Absolute Error upto 10% + 110% of the highest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is higher for the balance energy beyond 10% and upto 20%.
3	>20% but <=30%	At the highest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is higher for the shortfall in energy for Absolute Error upto 10% + 110% of the highest marginal cost of power or frequency linked deviation charge of the corresponding time block whichever is higher for the balance energy beyond 10%, and upto 20% + 120% of the highest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is higher for the balance energy beyond 20% and upto 30%
4	> 30%	At the highest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is higher for the shortfall in energy for Absolute Error upto 10% + 110% of the highest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is higher for the balance energy beyond 10% and upto 20% + 120% of the highest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is higher for balance energy beyond 20% and upto 30% + 130% of the highest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is higher for the balance energy beyond 30%.

- b) If the actual generation is more than the scheduled generation, the Deviation Charges for the excess generation shall be receivable by the QCA from the State Deviation Pool Account (Wind and Solar) as given in Table B below:

Table B: Deviation Charges in case of over-injection

Sl. No.	%age Absolute Error in 15-minute time block	Deviation Charges receivable from State Deviation Pool Account (Wind and Solar)
1	< =10%	At the lowest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is lower for the shortfall in energy for Absolute Error upto 10%.
2	>10% but <= 20%	At the lowest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is lower for the shortfall in energy for Absolute Error upto 10% + 90% of the lowest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is lower for the balance energy beyond 10% and upto 20%.
3	>20% but <=30%	At the lowest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is lower for the shortfall in energy for Absolute Error upto 10% + 90% of the lowest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is lower for the balance energy beyond 10%, and upto 20% + 80% of the lowest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is lower for the balance energy beyond 20% and upto 30%.
4	> 30%	At the lowest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is lower for the shortfall in energy for Absolute Error upto 10% + 90% of the lowest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is lower for the balance energy beyond 10% and upto 20% + 80% of the lowest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is lower for the balance energy beyond 20% and upto 30% + 70% of the lowest marginal cost of power for the day or frequency linked deviation charge of the corresponding time block whichever is lower for the balance energy beyond 30%

(By the Order of the Tamil Nadu Electricity Regulatory Commission)

Chennai-600 008,
1st March 2019,

S. CHINNARAJALU,
Secretary,
Tamil Nadu Electricity Regulatory Commission.

TAMIL NADU ELECTRICITY REGULATORY COMMISSION (DEVIATION SETTLEMENT MECHANISM AND RELATED MATTERS) REGULATIONS, 2019

Notification No.TNERC/DSM&RM/22-1 dt. 01-03-2019

No.VI(2)/33/2019.

In exercise of the powers conferred by Sections 86(1) and 181(2)(zp) read with Sections 32 and 33 of the Electricity Act, 2003 (Central Act 36 of 2003) and all other powers enabling it in this behalf, the Tamil Nadu Electricity Regulatory Commission hereby makes the following Regulations, the draft of the same having been previously published, as required under sub-section(3) of the said Section 181.

REGULATIONS

1. Short title and commencement

- These regulations may be called the Tamil Nadu Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2019.
- These regulations except provisions relating to commercial arrangements, deviation charges and penalty shall come into force on the date of publication of these Regulations in the *Tamil Nadu Government Gazette*:

Provided that the provisions relating to Commercial Arrangements and the Deviation Charges and Additional Charge for Deviation and penal actions if any, shall come into force six months after the commencement of these Regulations.

2. Definitions and Interpretation

1 In these Regulations, unless the context otherwise requires -

- a. **'Act'** means the Electricity Act, 2003 (36 of 2003);
- b. **'Actual drawal'** in a time-block means electricity drawn by a buyer, measured by the interface meters;
- c. **'Actual injection'** in a time-block means electricity generated or supplied by the seller, measured by the Interface meters;
- d. **'Area Clearing Price (ACP)'** means the price of a time block electricity contract established on the Power Exchange after considering all valid purchase and sale bids in particular area(s) after market splitting, i.e. dividing the market across constrained transmission corridor(s);
- e. **'Buyer'** means a person, including distribution licensee, deemed distribution licensee, purchasing electricity through a transaction scheduled in accordance with the regulations applicable for short-term open access, medium-term open access and long-term open access;
- f. **"Central Commission"** means the Central Electricity Regulatory Commission constituted under sub-section (1) of Section 76 of the Act;
- g. **'Connectivity Regulations'** means the Tamil Nadu Electricity Regulatory Commission (Grid Connectivity and Intra-State Open Access) Regulations, 2014 as amended from time to time;
- h. **'Commission'** means the Tamil Nadu Electricity Regulatory Commission constituted under sub-section (1) of Section 82 of the Act;
- i. **'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), the Rules and Bye-Laws of the Power Exchanges as approved by the Central Commission.
- j. **'Deviation'** in a time-block for a Seller means the difference between its total actual injection and its total scheduled generation and for a Buyer means the difference between its total actual drawal and its total scheduled drawal, and shall form part of the State Energy Accounts to be prepared by SLDC;
- k. **'Deviation Settlement Mechanism'** shall mean and include the framework for Energy accounting, Deviation Accounting, Rules for pricing of Deviation(s) payable and receivable by State Entities and other design parameters as specified under regulation 7 of these Regulations;
- l. **'Full Open Access Consumer'** shall mean Open Access Consumer connected to transmission system or distribution system but not having any contracted demand with the distribution licensee within the State;
- m. **'Gaming'** in relation to these Regulations, shall mean an intentional mis-declaration of declared capacity by any seller or intentional mis-declaration of drawal schedule by any Buyer in order to make an undue commercial gain through Charges for Deviation;
- n. **'Grid Code'** means the State Grid Code specified by the Commission under clause (h) of sub-section (1) of Section 86 of the Act;
- o. **'Indian Electricity Grid Code' (or 'IEGC')** means the Grid Code specified by the Central Electricity Regulatory Commission under section 79(1)(h) of the Act;
- p. **'Interface meters'** means interface meters as defined by the Central Electricity Authority under the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006, as amended from time to time;
- q. **'Load Despatch Centre'** means National Load Despatch Centre, Regional Load Despatch Centre or State Load Despatch Centre(SLDC), as the case may be, responsible for coordinating scheduling of the Buyers and the Sellers in accordance with the provisions of Grid Code;

- r. **‘Open Access Regulations’** means the Tamil Nadu Electricity Regulatory Commission (Grid Connectivity and Intra-State Open Access) Regulations, 2014 as amended from time to time;
 - s. **‘Partial open access consumer’** shall mean Open Access Consumer connected to transmission system or distribution system and having part of his contracted demand with the distribution licensee within the State;
 - t. **‘Scheduled Generation’** at any time or for a time block or any period means schedule of generation in MW or MWh *ex-bus* given to the Load Despatch Centre;
 - u. **‘Scheduled Drawal’** at any time or for a time block or any period means schedule of despatch in MW or MWh *ex-bus* given by the Load Despatch Centre;
 - v. **‘Seller’** means a person, including a generating station or unit of generating station, supplying electricity through a transaction scheduled in accordance with the regulations applicable for short-term open access, medium-term open access and long-term open access;
 - w. **‘State Deviation Pool Account (DSM)’** means the State Account maintained by the State Load Despatch Centre for receipts and payments on account of deviations by buyers and sellers;
 - x. **‘State Entity’** means such person who is in the SLDC control area and whose metering and energy accounting is done at the State level;
 - y. **‘Time-Block’** means a time block of 15 minutes or any such shorter duration as may be notified by the Commission, for which specified electrical parameters and quantities are recorded by special energy meter, with first time block starting at 00.00 hrs;
- 2 Words and expressions used in these Regulations and not defined, but defined in the Act, or the Grid Code or any other Regulations of this Commission shall have the meaning assigned to them respectively in the Act or the Grid Code or any other Regulations made by the Commission as the case may be.

3. Objective

The objective of these regulations is to maintain grid discipline and grid security as envisaged under the Grid Code through the commercial mechanism for Deviation Settlement through drawal and injection of electricity by the users of the grid.

4. Applicability

1. These Regulations shall apply to the transactions of conveyance of electricity through short- term open access or medium-term open access or long-term open access using intra-State transmission system or distribution system of electricity (including inter-state wheeling of power).
2. These Regulations shall be applicable to (a) all Seller(s) including Open Access Generating Station(s), Generating stations of Distribution licensees but excluding Wind and Solar Generating Station(s) connected to Intra-state Transmission system or Distribution system and .
 - (b) all Buyers, excluding full open access consumers, partial open access consumers connected to the Intra-State Transmission system or Distribution system.

5. Duties of State Load Despatch Centre and State entities

- (1) The State Entities shall inform the SLDC of all contracts entered by them for exchange of energy.
- (2) State Entities shall operate their equipment and loads in a manner that is consistent with the provisions of the Indian Electricity Grid Code and the Tamil Nadu Electricity Grid Code.
- (3) State Entities shall enter into Connection Agreement/Open Access Agreement with the concerned transmission licensee, which shall specify the physical and operational requirements for a reliable operation and gain physical access and connection to the intra-State transmission system (InSTS) or enter into Connection Agreement/Open Access Agreement with concerned Distribution Licensee for use of distribution system, as the case may be in accordance with Tamil Nadu Electricity Regulatory Commission (Grid Connectivity and Intra-State Open Access) Regulations, 2014, as amended from time to time. State Entities shall make necessary arrangements for putting up interface meters, capable of recording energy flows at 15-minute intervals, at the points of injection and drawal. The time synchronisation of metering system shall be through Global Positioning System with counter check from the State Energy Accounting Centre which is the SLDC.

- (4) SLDC shall take all decisions with regard to the despatching of stations after evaluating all possible network parameters, constraints, congestions in the transmission network and in the eventuality of any such network aberration, the instructions by the SLDC with regard to despatch and drawal shall be binding on all State Entities.
- (5) SLDC shall publish all such information as required for all other State Entities to be aware of the energy exchanges taking place within the State as well as exigency conditions, if any with regard to despatch of power.

6. Energy accounting statements

- (1) The State Load Despatch Centre shall prepare the statement of accounting of energy in each time block for sellers and buyers on monthly basis. Data required for billing of open access consumers shall be passed on to the billing centre of the distribution licensee by the SLDC. The billing centre of the distribution licensee shall be responsible for energy accounting, raising and settlement of bills with open access consumers. Payments towards fixed charges, energy charges by the buyers to the sellers shall be as per the mutually agreed terms in the respective power purchase/sale agreement subject to the condition that the same are not inconsistent with the provisions of these Regulations.
- (2) Overdrawal by Full open access consumers in excess of the schedule provided by Sellers shall be settled to the Distribution licensee at the charges applicable for excess demand to a normal consumer of the Distribution licensee as per the provisions of the Regulations of the Tamil Nadu Electricity Supply code and any drawal during outage of the generator supplying power to the full open access consumer shall be settled at 125% of the applicable energy and demand charges as determined in the Commission's tariff orders in respect of the Distribution licensee.
- (3) Overdrawal by Partial open access consumers in excess of the schedule provided by Sellers shall be settled as per the agreement governing the terms and conditions of supply entered into with the Distribution licensee.
- (4) Deviations from schedule by the Sellers and Buyers, excluding full and partial open access consumers, shall be governed by the provisions of these Regulations. The underdrawals by partial or full open access consumers shall be treated as inadvertent energy supplied by the generator.
- (5) The State Load Despatch Centre shall be responsible for preparation of weekly deviation charges statement to all pool participants and billing and collection of deviation charges from the pool participants in accordance with regulation 13 of these Regulations

- (1) A detailed energy accounting procedure shall be prepared by SLDC and submitted for approval to the Commission:

Provided that SLDC shall undertake stakeholder consultation by uploading the Draft procedure on SLDC's website before submission of procedure to the Commission for approval.

7. Principles for operationalising Deviation Settlement Mechanism

- (1) The framework for Deviation Settlement Mechanism shall cover the following key design parameters, viz. (a) Scheduling period (b) Operating range of frequency (c) Deviation (d) Settlement period (e) Measurement unit for State Deviation Pool Account (f) Deviation Pool Price Vector (g) Deviation Volume Limit (h) Premise for allocation of losses.
- (A) Scheduling Period:** The scheduling period shall comprise of 96 time blocks, each of 15-minute duration starting from 00:00 hours (IST) ending with 24:00 hours (IST). The first time block of scheduling period shall commence from 00:00 hours (IST) to 00:15 hours (IST), second time block of scheduling period shall commence from 00:15 hours (IST) to 00:30 hours (IST) and so on or such other period as the Commission may stipulate.
- (B) Guiding principles for scheduling and despatch**– All the Sellers and Buyers under these Regulations shall be guided by the scheduling and Despatch procedure to be formulated by SLDC in accordance with provisions of State Grid Code
- (C) Operating Range for Frequency:** The normal operating range for average grid frequency for time block shall be in line with range stipulated under IEGC and Tamil Nadu Electricity Grid Code from time to time. No Deviation shall be allowed beyond the specified operating range of frequency band by the Commission from time to time.
- (D) Deviation:** For the purposes of Deviation settlement amongst State Entities, the SLDC shall work out the Deviation for 'State Deviation Pool Accounts' comprising over-drawal/under-drawal and over-injection and under-injection for each State Entity corresponding to each Scheduling period. Charges for deviation shall be in accordance to regulation 10 and 11 of these regulations.
- (E) Settlement Period:** Preparation and settlement of 'State Deviation Pool Accounts' shall be undertaken on weekly basis coinciding with mechanism followed for regional deviation settlement accounts.

(F) **Measurement Unit for State Deviation Pool Account:** The measurement unit for State Deviation Pool Account Volume preparation shall be kilowatt hours (kWh). Measurement unit for State Deviation Pool Account Value (Payable and Receivable) preparation shall be Indian Rupees (INR). The decimal component of the energy unit (kWh) and amount (INR) shall be rounded off to nearest integer value.

(G) **Deviation Pool Price Vector:** The charges for Deviation shall be in accordance with regulation 10(A)(1) of this regulation with the Deviation Price Vector to be notified by the Commission from time to time. Pricing of Deviation of Buyers/Sellers shall be treated as stipulated under this Regulation. Further, additional condition for a change in sign of the deviation shall be met once every 6 time blocks by Buyer/Seller, failing which additional charges @20% of the deviation charges applicable on daily base DSM payable/receivable as the case may be, shall be levied for the duration of continuance of violation from the date to be notified separately by the Commission.

Provided that Deviation of Wind/Solar Generators, shall be treated as per the provisions of the Tamil Nadu Electricity Regulatory Commission (Forecasting, Scheduling and Deviation Settlement and related matters for Wind and Solar Generation) Regulations, 2019.

(H) **Deviation Volume Limit:** In order to ensure grid discipline and grid security, conditions for Deviation Volume Limit and consequences for exceeding such Deviation Volume Limit by way of levy of Additional Deviation Charges as specified under Regulations 10 and 11 shall be applicable.

(I) **Premise for Allocation of Losses:** For the purpose of State Deviation Pool accounting, the information regarding average intra-state transmission losses for the previous fifty two weeks shall be posted in the website of the State Load Despatch Centre and the average intra-state transmission losses shall be allocated amongst the State Entities in proportion to the scheduled drawal by each State Entity;

Provided the distribution losses allocated amongst the State entities shall be as approved by the Commission.

8. Declaration of capacity and scheduling

(1) The provisions of the Tamil Nadu Electricity Grid Code and Tamil Nadu Electricity Regulatory Commission (Grid Connectivity and Intra-State Open Access) Regulations, 2014 as amended from time to time, shall be applicable for declaration of capacity and scheduling.

(2) The generating station, as far as possible, shall generate electricity as per the day-ahead generation schedule finalized by the State Load Despatch Centre in accordance with the Tamil Nadu Electricity Grid Code.

Provided that the revision in generation schedule on the day of operation shall be permitted, in accordance with the procedure to be formulated by SLDC under the Tamil Nadu Electricity Grid Code and Tamil Nadu Electricity Regulatory Commission (Grid Connectivity and Intra-State Open Access) Regulations, 2014.

9. Treatment for gaming

(1) The Commission, either suo-motu or on a petition made by SLDC, or any affected party, may initiate proceedings against any generating company or seller or any Buyer on charges of gaming and if required, may order an enquiry to be made by such officer of the Commission on such other party as the Commission may deem fit. The enquiry officer so appointed shall submit his findings within such time as may be fixed by the Commission and such investigating officer or authority shall exercise all powers as envisaged under section 128 of the Act.

(2) If in the proceeding initiated by the Commission or in the enquiry made in this regard under sub regulation (1), it is proved that any seller or any Buyer has indulged in gaming, the Commission may without prejudice to any other action under the Act or Regulation made thereunder, disallow any charges for deviation to such seller or Buyer during the period of such gaming.

10. Charges for deviations

(A) Deviation Charges for Sellers and Buyers:

(1) The charges for the Deviations for all the time-blocks shall be payable for over-drawal by the Buyer and under-injection by the Seller and receivable for under-drawal by the Buyer and over-injection by the Seller, which are State Entities, and shall be worked out on the average frequency of a time-block by considering the Price Vector for Deviation Charges as specified in the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2014 and its amendments from time to time considering the methodology specified in the Annexure-1 of these Regulations and subject to conditions stipulated under clause (2) to (7) of this regulation:

Provided that a change in sign of the deviation shall be made once every 6 time blocks, failing which additional charges @ 20% of the deviation charges applicable shall be levied for the duration of continuance of violation.

Provided further that the applicability of above prescribed additional charges for such failure by Seller(s) /Buyer(s) shall be applicable from the date to be notified separately by the Commission.

- (2) The Charges for Deviation of generating stations whose tariff is determined by the Commission, when actual injection is higher than the scheduled generation, shall not exceed the Cap Rate [311] Paise/kWh to be determined by the Commission from time to time.
- (3) The Charges for the Deviation for the generating stations other than those covered under Sub-Clause (2) of Clause (A) of Regulation 10, irrespective of the fuel source, when actual injection is higher or lower than the scheduled generation, shall not exceed the Cap Rate of [303.04] Paise/kWh
- (4) The charges for the Deviation for the under-drawal by the Buyer in a time block in excess of 12% of the schedule or [X]MW, the limit arrived as per clause (B) of regulation 11, whichever is less, shall be zero;
- (5) The charges for the deviation for the over-injection by the Seller, in a time block in excess of 12% of the schedule or [100] MW, whichever is less, shall be zero, except in case of injection of infirm power, which shall be governed by clause (9) of this regulation;
- (6) The charge for deviation shall be zero at grid frequency of 50.05 Hz and above.
- (7) The linkage of Deviation Charges to frequency may be reviewed by the State Commission as and when revised by Central Commission keeping in view the changing power market conditions and shall be re-notified accordingly.
- (8) The Charges 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 daily simple average ACP 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 no single Power Exchange is having a market share of 80% or more, the weighted average daily simple average ACP shall be considered.
- (9) The infirm power injected into the grid by a generating unit of a generating station during the testing, prior to COD of the unit shall be paid at Charges for Deviation for infirm power injected into the grid, consequent to testing, for a period not exceeding 6 months or the extended time allowed by the Commission in the Tamil Nadu Electricity Regulatory Commission (Grid Connectivity and Intra-State Open Access Regulations), 2014, as amended from time to time, subject to ceiling of Cap Rates corresponding to the 1[main fuel] as determined by the Central Commission used for such injection as specified below:

Domestic coal/ Lignite/Hydro	1[1.78] / kWh sent out
APM gas as fuel	[2.82]/ kWh sent out <i>up to the date of revision of price of APM gas by Government of India and thereafter, at the rate to be notified by the Commission separately</i>
Imported Coal	1[3.03] / kWh sent out

1 main fuel price as determined by CERC from time to time to be adopted

11. Limits on Deviation volume and consequences of crossing limits

- (A) The over-drawal or under drawal of electricity by any Buyer during a time block shall not exceed 12% of its scheduled drawal or [X] MW, the limit arrived as per clause (B) of this regulation , whichever is lower, when grid frequency is between range of '49.85 Hz and above to below 50.05 Hz.'

Provided that from a date not earlier than one year as may be notified by the Commission, 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.

- (B) The Volume Limit of [X] MW for distribution licensee(s) and Buyers shall be determined as under:

- i. Minimum of (12% of schedule, (Peak Demand of Distribution Licensee or Buyer / \sum NCPD) x State Volume Limit)

Where NCPD (Non-Coincident Peak Demand) represents the sum of Peak Demand of Distribution Licensee(s) and Buyer(s) subject to condition stipulated under following sub-clause (iii).

- ii. State Volume Limit shall be linked to Volume Limit (L) applicable to the State as per CERC DSM Regulations and its amendments thereof;
- iii. Where Peak Demand of the Distribution Licensee shall be recorded Peak Demand in the previous Financial Year or Projected Peak Demand in ensuing Financial Year, whichever is higher;

Provided that no over drawal of electricity by any Buyer shall be permissible when grid frequency is “below 49.85 Hz” and no under drawal of electricity by any Buyer shall be permissible when grid frequency is “50.05 Hz and above”.

- (C) The under-injection or over-injection of electricity by Seller shall not exceed the following limits when grid frequency is “49.85 Hz or above and below 50.05 Hz”:

- i. 12% of the scheduled injection or [100] MW, whichever is lower for a Seller

- (D) In addition to Charges for Deviation as stipulated under Regulation 10 of these Regulations, Additional Charge for Deviation shall be applicable for over-drawal as well as under-injection of electricity for each time block in excess of the volume limit specified in Clause (B) and (C) of this regulation when average grid frequency of the time block is “49.85 Hz and above” at the rates specified in the **Table I of Annexure II** in accordance with the methodology specified in clause (M) of this regulation:
- (E) Additional Charge for Deviation for under-injection of electricity, during a time-block in excess of the volume limit specified in clause (C) of this regulation when grid frequency is “49.85 Hz and above”, by the generating stations regulated by the Commission using coal or lignite or gas supplied under Administered Price Mechanism (APM) as the fuel shall be at the rates specified in **Table II of Annexure II** in accordance with the methodology specified in clause (O) of this regulation;
- (F) In addition to Charges for Deviation as stipulated under Regulation 10 of these Regulations, Additional Charge for Deviation shall be applicable for over-injection/under drawal of electricity for each time block by a Seller or 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”.
- (G) No under injection of electricity by a Seller shall be permissible when grid frequency is “below 49.85 Hz” and no over injection of electricity by a seller shall be permissible when grid frequency is “50.05 Hz and above”.
- (H) Any infirm injection of power by a generating station prior to COD of a unit during testing and commissioning activities shall be exempted from the volume limit specified above for a period not exceeding 6 months or the extended time allowed by the Commission in accordance with Tamil Nadu Electricity Regulatory Commission (Grid Connectivity and Intra-State Open Access Regulations), 2014.
- (I) Any drawal of power by a generating station prior to COD of a unit for the startup activities shall be exempted from the volume limit specified above when grid frequency is “49.85 Hz and above”.
- (J) Any drawal of power by a generating station prior to COD of a unit for the start-up activities shall be exempted from the levy of additional Charges of Deviation.
- (K) State Load Despatch Centre shall develop and publish on its website Procedures and Methodologies for the computation of Charges for Deviation and Additional Charges for deviation for each State Entity for crossing the volume limits specified for the under-drawal /over-injection and for over-drawal and under-injection as specified under these Regulations.
- (L) In addition to Charges for Deviation as stipulated under regulation 10 of these Regulations, Additional Charge for Deviation shall be applicable for over-drawal or under-injection of electricity when grid frequency is “below 49.85 Hz” in accordance with the methodology specified in clause (N) of this Regulation.

Provided that Additional Charge for Deviation for under-injection of electricity by a Seller, during the time-block when grid frequency is “below 49.85 Hz”, by the generating stations regulated by the Commission using coal or lignite or gas supplied under Administered Price Mechanism (APM) as the fuel in accordance with the methodology specified in clause (O) of this Regulation shall be equivalent to 100% of the Cap Rate being equivalent to the energy charges as billed for the previous month of the Main fuel.

(M) The Additional Charge for Deviation for over-drawal and under-injection of electricity for each time block in excess of the volume limit specified in clause (B) and (C) of this Regulation when grid frequency is "49.85 Hz and above" shall be as specified by the Commission as a percentage of the charges for the Deviation corresponding to average grid frequency of the time block with due consideration to the behaviour of the Buyers and Sellers towards grid discipline:

Provided that the Commission may specify different rates for additional Charges for Deviation for over draws and under injections depending upon different % of deviation from the schedule in excess of the volume limit specified in clause (B) and (C) of this Regulation.

(N) The additional Charge for Deviation for over-drawals and under-injection of electricity for each time block when grid frequency is "below 49.85 Hz" shall be as specified by the Commission as a percentage of the charges for the Deviation corresponding to average grid frequency of the time block with due consideration to the behaviour of the Buyers and Sellers towards grid discipline:

Provided that the Commission may specify different rates for Additional Charges for Deviation for over draws and under injections and for different ranges of frequencies "below 49.85 Hz".

(O) The Additional Charge for Deviation for under-injection of electricity during the time-block in excess of the volume limit specified in Clause (C) of this regulation when grid frequency is '49.85 Hz and above', by the generating stations regulated by the Commission using coal/ lignite or gas supplied under Administered Price Mechanism (APM) as the fuel shall be as specified by the Commission as a percentage of the Cap Rate or the Charges for Deviation corresponding to the grid frequency of the time block, or both with due consideration to the behaviour of the generating stations regulated by the Commission towards grid discipline:

(P) In the event of sustained deviation from schedule in one direction (positive or negative) by any State entity, such State Entity (Buyer or Seller) shall have to make sign of their deviation from schedule changed, at least once, after every 6 time blocks as and when made applicable by the Commission as specified in the Regulation 10 (A)(1) of these Regulations.

To illustrate, if a State entity has positive deviation from schedule from 07.30 hrs to 9.00 hrs, sign of its deviation from schedule shall be changed in the 7th time block i.e.9.00 to 9.15 hrs from positive to negative or negative to positive as the case may be.

(Q) The additional Charge for violation of sign change stipulation shall be leviable for each such violation during a day from the date to be notified separately by the Commission.

To illustrate, the change of sign should take place at least once after every six time blocks. Accordingly, the entity, starting from time block t1, should change the sign after time block t6. In case, sign change does not take place immediately after time block t6, but takes place from time block t7 upto time block t12, additional charge shall be levied equivalent to one violation. In case, sign change does not take place immediately after time block t12, but takes place from time block t13 upto time block t18, additional charge shall be levied equivalent to two violations.

Provided that in case of run of river projects without pondage, payment of additional charge for failure to adhere to sign change requirement shall apply from such date as may be notified by the Commission. Such generators shall, however, be required to follow the sign change requirement and report to SLDC the reasons for non-adherence to the requirement.

(R) Payment of Charges for Deviation under Regulation 10 and the Additional Charges for Deviation under Clauses (D), (E) and (F) of this Regulation, shall be levied without prejudice to any action that may be considered appropriate by the Commission under Section 142 of the Act for contravention of the limits of over-drawal/under drawal or under-injection / over-injection as specified in these Regulations, for each time block or violation of provision of clause (P) of this Regulation.

(S) The charges for over-drawal/ under-injection and under-drawal/over-injection of electricity shall be computed by SLDC in accordance with the methodology used for preparation of 'State Energy Accounts'.

(T) The State Load Despatch Centre shall, on weekly basis, prepare and publish on its website the records of the Deviation Accounts, specifying the quantum of over-drawal/ under-injection and corresponding amount of Charges for Deviation payable/receivable for each Buyer and Seller for all the time-blocks when grid frequency was "49.85 Hz and above" and "below 49.85 Hz" separately.

12. Compliance with instructions of Load Despatch Centre

Notwithstanding anything specified in these Regulations, the Sellers and the Buyers shall strictly follow the instructions of the State Load Despatch Centre on injection and drawal in the interest of grid security and grid discipline.

13. Accounting of Charges for Deviation

1. A statement of Charges for Deviations including Additional Charges for Deviation levied under these Regulations shall be prepared by SLDC (or Secretariat of State Power Committee as the case maybe) on weekly basis based on the data from SLDC by the Thursday of the week for seven-day period ending on the penultimate Sunday mid-night and shall be issued to all constituents by next Thursday.
2. All payments on account of Charges for Deviation including Additional Charges for Deviation levied under these Regulations and interest, if any, received for late payment shall be credited to the funds called the "State Deviation Pool Account", which shall be maintained and operated by the State Load Despatch Centre in accordance with provisions of these regulations.

Provided that –

- i.* The Commission may by Order direct any other entity to operate and maintain respective "State Deviation Pool Account".
 - ii.* Separate books of accounts shall be maintained for the Principal component and Interest component of Charges for Deviation and Additional Charges for Deviation by the SLDC.
 - iii.* The State entities shall comply with statutory requirements for payment of applicable statutory levies, including but not limited to Goods and Service Tax (GST), Tax deduction at source (TDS);
 - iv.* The State entities shall facilitate SLDC in meeting with the reporting requirements of Statutory Authorities, as necessary.
3. All payments received in the "State Deviation Pool Account" shall be appropriated in the following sequence:
 - i.* any cost or expense or other charges incurred on recovery of Charges for deviation.
 - ii.* over dues or penal interest, if applicable.
 - iii.* normal interest.
 - iv.* Regional Deviation Pool Account
 - v.* charges for deviation and additional charges for deviation.
 - vi.* Any other charges as may be raised by the RLDC
 4. An amount of surplus funds in the State Deviation Pool Account at the end of the financial year shall be utilised for the purpose of improvements in power system operations, for undertaking such measures and studies for improvement in reliability, security and safety of grid operations, undertaking capacity building and training programs related to system operations and market operations and for such other purposes or for other schemes as may be devised in consultation with National Load Despatch Centre, or Regional Load Despatch Centre, with prior approval of the Commission.

Provided that SLDC shall prepare scheme(s) and shall submit annual plan for utilisation of surplus funds and implement the scheme(s) only upon approval of the Commission.

5. The shortfall in funds in the State Deviation Pool Account, if any, at the end of the weekly settlement period shall be recovered by levy of additional charge from the State Entities in proportion to Net Deviation Charges Payable by concerned State Entity for the applicable weekly settlement period through supplementary bills.

14. Schedule of Payment of Charges for Deviation

1. The payment of charges for Deviation shall have a high priority and the concerned constituent shall pay the indicated amounts within 10 (ten) days of the issue of Statement of Charges for Deviation including Additional Charges for Deviation by SLDC into the "State Deviation Pool Account".
2. If payments against the Charges for Deviation including Additional Charges for Deviation are delayed by more than two days, i.e., beyond twelve (12) days from the date of issue of the statement by the SLDC, the defaulting constituent shall have to pay simple interest @ 0.06% for each day of delay. This is without prejudice to any action that may be taken under Section 142 of the Act in addition to any action under Section 56 of the Act and other relevant Regulations.
3. All payments to the entities entitled to receive any amount on account of charges for Deviation shall be made within 2 working days of receipt of the payments in the "State Deviation Pool Account".

Provided that –

- i.* In case of delay in the Payment of charges for Deviations into the State Deviation Pool Account and interest there on

if any, beyond 12 days from the date of issue of the Statement of Charges for Deviations, the State Entities who have to receive payment for Deviation or interest thereon shall be paid from the balance available in the State Deviation Pool Account. In case the balance available is not sufficient to meet the payment to the State Entities, the payment from the State Deviation Pool Accounts shall be made on pro rata basis from the balance available in the State Deviation Pool Account.

ii. The liability to pay interest for the delay in payments to the "State Deviation Pool Account" shall remain till interest is not paid, irrespective of the fact that constituents who have to receive payments, have been paid from the "State Deviation Pool Account" in part or full.

4. All State Entities which had at any time during the previous financial year failed to make payment of Charges for Deviation including Additional Charges for Deviation within the time specified in these Regulations shall be required to open a Letter of Credit (LC) equal to 110% of its average payable weekly liability for Deviations in the previous financial year, in favour of the SLDC within a fortnight from the date these Regulations come into force.

Provided that –

- i.* If any State entity fails to make payment of Charges for Deviation including Additional Charges for Deviation by the time specified in these Regulations during the current financial year, it shall be required to open a Letter of Credit equal to 110% of weekly outstanding liability in favour of State Load Despatch Centre within a fortnight from the due date of payment.
- ii.* LC amount shall be increased to 110% of the payable weekly liability for Deviation in any week during the year, if it exceeds the previous LC amount by more than 50%.

Illustration

If the average payable weekly liability for Deviation of a State entity during [2018-19] is Rs.2.0 crores, the State entity shall open LC for Rs.2.2 crores in [2019-20]. If the weekly payable liability during any week in [2019-20] is Rs.3.5 crores which is more than 50% of the previous financial year's average payable weekly liability of Rs 3.0 crores, the concerned state entity shall increase the LC amount to Rs.3.85 crores (1.1×3.50) by adding Rs.1.65 Crores.

5. In case of failure to pay into the "State Deviation Pool Account" within the specified time of 12 days from the date of issue of statement of charges for Deviations, the SLDC shall be entitled to encash the LC of the concerned constituent to the extent of the default and the concerned constituent shall recoup the LC amount within 3 days.

15. Governance Structure and constitution of State Power Committee

1. Within three months from date of notification of these Regulations, the State Load Despatch Centre shall formulate Operating Procedures and Business Rules for constitution of State Power Committee, which shall be approved by the State Commission.
2. The State Power Committee shall:
 - i.* Co-ordinate and facilitate the intra-state energy exchange for ensuring optimal utilisation of resources.
 - ii.* Monitor compliance of these Regulations by State Entities and submit annual compliance report in the prescribed format within thirty days from close of financial year.
 - iii.* Guide the SLDC for modification of procedure(s) to address the implementation difficulties, if any.
 - iv.* Provide necessary support and advice to the Commission for suitable modifications/issuance of operating procedures, practice directions, and amendment to the provisions of these Regulations, as may be necessary upon due regulatory process.

16. Power to amend

The Commission may, at any time, vary, alter, modify or amend any provisions of these Regulations.

17. Power to remove difficulties

If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by general or specific order, make such provisions not inconsistent with the provisions of the Act, as may appear to be necessary for removing the difficulty.

18. Power to relax

The Commission may by general or special order, for reasons to be recorded in writing, and after giving an opportunity of hearing to the parties likely to be affected by grant of relaxation, may relax any of the provisions of these Regulations on its own motion or on an application made before it by an interested person.

19. Power to issue directions

If any difficulty arises in giving effect to these Regulations, the Commission may on its own motion or on an application filed by any affected party, issue such directions as may be considered necessary in furtherance of the objective and purpose of these Regulations.

S. CHINNARAJALU,
Secretary,
Tamil Nadu Electricity Regulatory Commission.

Annexure-1**1. Deviation charges for sellers, buyers, and other conditions:**

- 1) As specified in the Regulation 10 (A) of these Regulations, the charges for the Deviations for all the time-blocks shall be payable for over-drawal by the Buyer and under-injection by the Seller and receivable for under-drawal by the Buyer and over-injection by the Seller, which are State Entities, and shall be worked out on the average frequency of a time-block by considering the Price Vector for Deviation Charges as specified in the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2014 and its amendments as stipulated in the following table:

<i>Average frequency of time block (Hz)</i>		<i>Charges for Deviation</i>
Below	Not below	(Paise / kWh)
	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 (simple) 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	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 simple 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 daily simple average ACP 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 no single Power Exchange is having a market share of 80% or more, the weighted average day-ahead price shall be used for linking to the DSM price.
- v. Daily simple average Area Clearing Prices (ACP) in the day-ahead market (exclusive of any transmission charges and transmission losses) shall be used as the basis for market linked DSM price at 50 Hz.

Provided that based on a review of the above mechanism within one year or in such time period as may be decided by the Commission, if the Commission is satisfied that the market conditions permit, the basis for market linked DSM price shall be substituted, by the time-block-wise ACP in the day ahead market or as and when the real time market is introduced, by the hourly ACP or the ACP of such periodicity as may be considered appropriate by the Commission.

- vi. The Cap rate for the charges for deviation for the generating stations whose tariff is determined by the Commission shall be equal to its energy charges as billed for the previous month.

Provided that no retrospective revision of DSM account shall be allowed even if the energy charges are revised at a later date.

- vii. In case of non-availability of daily simple average ACP due to no-trade on a given day, daily simple average ACP of the last available day shall be considered for determining the DSM charge.
- viii. Deviation price shall be rounded off to nearest two decimal places
- ix. An illustration to the DSM price vector specified in table above, is provided as Annexure-I
- x. The National Load Despatch Centre (NLDC) shall act as the Nodal Agency to declare the daily DSM rates and shall display all relevant information on its website."

Annexure-II: Additional Deviation Charges**TABLE – I: Additional Deviation Charge (for Seller/Buyer)****(A) When 12% of the Schedule is less than or equal to [100] MW**

1	For over-drawal of electricity by any Buyer in excess of 12% and upto 15% of the schedule in a time block	Equivalent to 20% of Charge for Deviation corresponding to average grid frequency of the time-block
2	For over-drawal of electricity by any Buyer in excess of 15% and upto 20% of the schedule in a time block	Equivalent to 40% of Charge for Deviation corresponding to average grid frequency of the time-block
3	For over-drawal of electricity by any Buyer in excess of 20% of the schedule in a time block	Equivalent to 100% of Charge for Deviation corresponding to average grid frequency of the time-block
4	For under-injection of electricity by any Seller in excess of 12% and upto 15% of the schedule in a time block	Equivalent to 20% of Charge for Deviation corresponding to average grid frequency of the time-block
5	For under-injection of electricity by any Seller in excess of 15% and upto 20% of the schedule in a time block	Equivalent to 40% of Charge for Deviation corresponding to average grid frequency of the time-block

6	For under-injection of electricity by any Seller in excess of 20% of the schedule in a time block	Equivalent to 100% of Charge for Deviation corresponding to average grid frequency of the time-block
---	---	--

(B) When 12% of the Schedule is more than [100] MW

1	For over-drawal of electricity by any Buyer is above X MW and upto X+[10] MW in a time block	Equivalent to 20% of Charge for Deviation corresponding to average grid frequency of the time-block
2	For over-drawal of electricity by any Buyer is above X+[10] MW and upto X + [20] MW in a time block	Equivalent to 40% of Charge for Deviation corresponding to average grid frequency of the time-block
3	For over-drawal of electricity by any Buyer is above X + 20 MW in a time block	Equivalent to 100% of Charge for Deviation corresponding to average grid frequency of the time-block
4	For under-injection of electricity by any Seller is above [100] MW and upto[110] MW in a time block	Equivalent to 20% of Charge for Deviation corresponding to average grid frequency of the time-block
5	For under-injection of electricity by any Seller is above [110] MW and upto [120] MW in a time block	Equivalent to 40% of Charge for Deviation corresponding to average grid frequency of the time-block
6	For under-injection of electricity by any Seller is above [120] MW in a time block	Equivalent to 100% of Charge for Deviation corresponding to average grid frequency of the time-block

TABLE – II: Additional Deviation Charge for Under-Injection by Generating Stations Regulated by the Commission Using Coal or Lignite or Gas Supplied Under Administered Price Mechanism (APM)

(A) When 12% of the Schedule is less than or equal to [100] MW

1	For under-injection of electricity by any Seller in excess of 12% and upto 15% of the schedule in a time block	Equivalent to 20% of Cap Rate of [303.04] Paise/kWh or charge for Deviation corresponding to average grid Frequency of the time-block, whichever is less.
2	For under-injection of electricity by any Seller in excess of 15% and upto 20% of the schedule in a time block	Equivalent to 40% of Cap Rate [303.04] Paise/kWh or charge for Deviation corresponding to average grid Frequency of the time-block, whichever is less.
3	For under-injection of electricity by any Seller in excess of 20% of the schedule in a time block	Equivalent to 100% of Cap Rate [303.04] Paise/kWh or charge for Deviation corresponding to average grid Frequency of the time-block, whichever is less.

(B) When 12% of the Schedule is more than [100] MW

1	For under-injection of electricity by any Seller is above 100 MW and upto 110 MW in a time block	Equivalent to 20% of Cap Rate [303.04] Paise/kWh or charge for Deviation corresponding to average grid Frequency of the time-block, whichever is less.
2	For under-injection of electricity by any Seller is above 110 MW and upto 120 MW in a time block	Equivalent to 40% of Cap Rate [303.04] Paise/kWh or charge for Deviation corresponding to average grid Frequency of the time-block, whichever is less.
3	For under-injection of electricity by any Seller is above 120 MW in a time block	Equivalent to 100% of Cap Rate [303.04] Paise/kWh or charge for Deviation corresponding to average grid Frequency of the time-block, whichever is less.

Annexure-III

Illustration to the DSM Price Vector specified in the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2014 and its amendments under Clause 3.1

Average Frequency of the time block (Hz)		Charges for Deviation (Paise/kWh)
Below	Not Below	
	50.05	0.00
50.05	50.04	1xP/5

50.04	50.03	2xP/5
50.03	50.02	3xP/5
50.02	50.01	4xP/5
50.01	50.00	P
50.00	49.99	50.00+15xP/16
49.99	49.98	100.00+14xP/16
49.98	49.97	150.00+13xP/16
49.97	49.96	200.00+12xP/16
49.96	49.95	250.00+11xP/16
49.95	49.94	300.00+10xP/16
49.94	49.93	350.00+9xP/16
49.93	49.92	400.00+8xP/16
49.92	49.91	450.00+7xP/16
49.91	49.90	500.00+6xP/16
49.90	49.89	550.00+5xP/16
49.89	49.88	600.00+4xP/16
49.88	49.87	650.00+3xP/16
49.87	49.86	700.00+2xP/16
49.86	49.85	750.00+1xP/16
49.85		800.00

Where P is the Daily average Area Clearing Price in paisa per kWh discovered in the Day Ahead Market segment of power exchange.

(By the Order of the Tamil Nadu Electricity Regulatory Commission)

Chennai-600 008,
1st March 2019,

S. CHINNARAJALU,
Secretary,
Tamil Nadu Electricity Regulatory Commission.