

TAMIL NADU ELECTRICITY REGULATORY COMMISSION

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**The Chairman,
TANTRANSCO,
144, Anna Salai,
Chennai-2.**

Lr.No. TNERC/DE/DDEI/F.DSM Procedure/D.No. 915 /20, 03.10.2020

Sir,

Sub.: Approval for the 'Procedure for implementation of Forecasting, Scheduling, Deviation Settlement for Wind and Solar', Procedure for Deviation Settlement for all other entities' and State Power Committee – Reg.

Ref.: Lr.No.Dir/O/CE/GO/SE/OA&CO/EE/OA/RE/F.DSM/D77/19,
dt.19.08.2019

1. Regulation 5 of TNERC (Forecasting, Scheduling, Deviation Settlement and Related Matters for Wind and Solar Generation) Regulations 2019 and Regulation 6 of TNERC (Deviation Settlement Mechanism and Related Matters) Regulations 2019, require a Detailed procedure to be submitted by the State Load Despatch Centre(SLDC) after undertaking stakeholder consultation and approved by the Commission. In accordance to the provisions in the said regulations, TNSLDC submitted the following procedures with stakeholder's comments and their remarks :

- i) Procedure for Implementation of TNERC Deviation Settlement Mechanism and Related Matters Regulations 2019.
- ii) Procedure for implementation of TNERC Forecasting, Scheduling and Deviation Settlement and Related Matters for Wind and Solar Generation Regulations 2019.

iii) State Power Committee Conduct of Business Rules.

Commission has examined the comments furnished and has incorporated necessary changes and approved the Procedures against Sl.No.(i) to (iii) above. The approved procedures are enclosed. The same may be hosted in TANTRANSCO / TNSLDC's website.

Sd./-
(S.Chinnarajalu)
Secretary

Encl.: as above

Copy to the Managing Director, TANTRANSCO, Chennai-2.

Copy to the Director/Distribution, TANGEDCO, Chennai-2.

Copy to the Chief Engineer/Grid Operation, TNSLDC, Chennai-2.

**Procedure for
Forecasting, Scheduling and Deviation
Settlement of Wind and Solar Generation**

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PROCEDURE FOR FORECASTING, SCHEDULING AND DEVIATION SETTLEMENT OF WIND AND SOLAR GENERATION

1. PREAMBLE:

1.1. In exercise of the powers conferred by Regulation 5.21 and other provisions of Tamil Nadu Electricity Regulatory Commission (Forecasting, Scheduling and Deviation Settlement and related matters for Wind and Solar Generation) Regulations, 2019 issued vide Notification No. TNERC/F&S Wind & Solar/21-1 dt.01.03.2019, this procedure is issued. All entities shall abide by the provisions of these Regulations as amended from time to time.

1.2. This procedure may be called the “Procedure for implementation of Forecasting, Scheduling and Deviation Settlement of Wind and Solar Generation” or in short “FSDSM Wind & Solar Procedure” and shall be read in conjunction with the Forecasting, Scheduling and Deviation Settlement and related matters for Wind and Solar Generation Regulations 2019, Indian Electricity Grid Code (IEGC), Tamil Nadu Electricity Grid Code (TNEGC), Intra State Open Access Regulations and subsequent amendments issued thereof.

1.3. APPLICABILITY OF THE PROCEDURE:

This procedure 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.

1.4 Whenever the Commission notifies amendments to the Regulations, irrespective of whether the procedure is amended or not, the amended provisions of the Regulations shall be followed and no action taken on the basis of such amendments shall be called in question on the ground that the consequent amendments were not effected to the procedures. However, the Tamil Nadu State Load Despatch Centre shall take

immediate action to obtain approval for the amendments and incorporate the same in these procedures.

- 1.5 The TNERC Forecasting, Scheduling and Deviation Settlement and Related matters for Wind and Solar Regulations 2019 are in force from 20.3.2019. The commercial settlement i.e levy and collection of deviation charges shall commence from the date as may be notified by the Commission. TNSLDC shall ensure that the necessary infrastructure to implement the Deviation Settlement Mechanism is put in place before the commencement of commercial mechanism.

2. QUALIFYING CRITERIA FOR THE QCA:

- 2.1. In accordance with Regulation 6 of TNERC Forecasting & Scheduling Regulations, 2019, majority of Generators in terms of their installed capacity at Pooling Sub-Station(PSS) shall appoint one amongst themselves or any other entity as QCA(Qualified Co-ordinating Agency). The QCA shall be a registered entity under the relevant statutory enactments.
- 2.2. In case of appointment of entity other than Generator(s) at Pooling Sub-Station, the Generators shall consider following guiding principles for appointment of QCA. Adherence to these guiding principles for appointment of QCA would be in the interest of Generators and would facilitate smooth implementation of F&S framework in the state.
- 2.2.1. The QCA shall have the capabilities of Modeling energy generation potential on seasonal time scales with impact surfaces, a tool to visualize the energy generation potential in “Climate Space”.
- 2.2.2. The QCA shall have the experience in the field of Wind/Solar Power forecasting and scheduling in different terrain and regions for minimum period of two (2) years including pilot project work with appropriate accuracy levels in forecasting. However, in case of the Wind Turbine Manufacturer or individual Wind/Solar generator acting as QCA, the experience clause is not applicable.
- 2.2.3. The financial strength of the QCA must be such that it should be in a position to handle the risk of penalties due to deviation charges applicable

to generator. Considering this, the Average Net Worth of the QCA for forecasting & scheduling services must be in positive amounting to at least Rs.2.5 Crores (Net worth = Share Capital + Reserve – Revaluation Reserve – Intangible Asset – Misc. Expenditure to the extent not written off – Carried Forward Losses – Liabilities) in the last financial year which should reflect from its audited balance sheet or CA's certificate.

2.2.4. QCA should have established team of:

- a. Renewable resource analyst,
- b. Modeling statisticians,
- c. Software developers
- d. 24 x 7 operation and monitoring team
- e. and an Energy model.

The corresponding supporting certificates/documents justifying qualification should be submitted along with the application for registration.

2.3. It is envisaged that Generators acting as QCA themselves, shall also strive to build requisite skillsets, capacity and technical competence adhering to qualification requirements over the period of two years.

2.4. The QCA shall possess/provide authorization as per **Annexure – I** from majority of the Generators connected in the Pooling Sub-station in terms of their combined installed capacity for appointment as QCA at the time of Registration.

3. ROLES AND RESPONSIBILITIES OF THE QCA:

3.1. In accordance with these Procedures and Regulations, the QCA shall be the State Entity.

3.2. The QCA shall be the single point of contact between the TNSLDC and the Generators to whom it is representing in the Pooling Sub-station. QCA shall submit separate schedules for Wind and Solar, inter and intra State generations in a Pooling station.

3.3 The QCA shall establish a Control Center round the clock and shall be responsible for real time co-ordination with its generators on all matters pertaining to implementation of regulations. In case of QCAs attending to

multiple PSS, it is left to the QCA to establish control centres for each of its PSS or a common control centre covering all its PSSs. The Control Centre shall have facilities of voice communication with TNSLDC and Wind/Solar Generators with voice recording facilities, internet connection available for all the 24 hours. The QCA shall comply with the instructions of the System Operator in normal condition as well as during emergencies keeping in view Grid security and safety. QCA shall provide real time data to TNSLDC.

- 3.4** The QCA shall establish protocol for communication with individual generators to implement the instructions of System Operators and TNSLDC.
- 3.5** In case of any curtailment planned and communicated by the TNSLDC due to line maintenance or other reasons in certain time blocks of a day, the generator/QCA shall cause to implement such instructions from SLDC. QCA shall act on curtailment instructions as per regulation 15.2 of FSDSM Regulations. The revisions of schedule per generator under the QCA shall be an inter se arrangement. Normally curtailment shall be in proportion to current despatch schedule. Revisions due to curtailment will be effective from the 4th time block counting the instruction for revision issued by SLDC as the 1st time block.
- 3.6** It is the responsibility of QCA to establish facilities of communication of meter data (through any channel of communication such as SCADA/MPLS/VSAT), ensure maintaining meter data readings for each generator. QCA shall be responsible for data collection, transmission and co-ordination with RLDC, TNSLDC, STU, CTU, TANGEDCO (DISCOM) and other agencies as per CEA Metering Regulations, IEGC and CERC/TNERC Regulations. In case of non-receipt of meter data through AMR system by TNSLDC, QCA shall coordinate with DISCOM/ STU for manual data downloading through CMRI and submit the same as decided by TNSLDC/ within 2 days from the date of intimation.
- 3.7** In accordance to regulation 30 of TNERC Grid Connectivity and Intra State Open Access Regulations 2014, check meters shall be provided by STU or Distribution licensee.
- 3.8** QCA shall declare Available Capacity of the Generating Station which the QCA represents to TNSLDC.

3.9 QCA shall provide aggregated Day ahead & Week ahead forecast (based on their own forecast or on the forecast done by TNSLDC) and Schedule as per **Annexure - II** through a web-based application maintained by TNSLDC.

Provided that if the QCA is representing on behalf of the multiple Pooling Sub-stations, the Scheduling, Energy accounting and Deviation monitoring for each Pooling Sub-station of wind and/or solar power generation shall be undertaken separately.

3.10 QCA in coordination with Generator shall provide real time availability (at turbine/inverter level) and generation data (at Pooling Sub-station level) as per **Annexure – III** through email/web based application of SLDC.

3.11 In case of non-availability of Real time data for the old machines (at Turbine Level/inverter level), QCA in coordination with Generators shall maintain and provide time block wise generation data and weather data detailed below, on Weekly basis. Within six months, QCA shall establish data transfer through MPLS line from the generator.

- For wind plants, at the turbine level:
Average wind speed, Average power generation at 15-min time block level
- For solar plants, for all inverters* ≥ 1 MW:
Average Solar Irradiation, Average power generation at 15-min time block level.

** if a solar plant uses only smaller string inverters, then data may be provided at the plant level.*

3.12 QCA shall :

- (i) Undertake commercial settlement of all deviation-settlement charges as per applicable TNERC FSDSM Regulations.
- (ii) Maintain records and accounts of the time block-wise Schedules, the actual generation injected and the deviations, for the Pooling Sub-station and the individual Generators separately.

- (iii) Prepare deviation accounts on Weekly basis for each Pooling Sub-Station as per regulation 16 of the Forecasting, Scheduling and Deviation Settlement of Solar and Wind Generation Regulations, 2019.

- 3.13** QCA shall execute an undertaking with TNSLDC as per Annexure-V to undertake all technical and commercial responsibilities on behalf of the Constituents as per the prevalent TNERC Regulations.
- 3.14** QCA shall perform commercial settlement beyond the connection point (De-pooling arrangement among each generator in the Pooling Sub-station) and technical coordination amongst the generators within the Pooling Sub-station and up to the connection point as the case may be.
- 3.15** QCA shall furnish Technical data of individual generators of Wind/Solar as per **Format-1**.
- 3.16** The QCA, within seven (7) days, shall inform in advance the details to TNSLDC in case there is any change in:
- The Generating Station (in case of individually connected generator),
 - Pooling Sub-station
 - Individual generators in the Pooling Sub-station
 - Reduction in authorization from generators in a Pooling Sub-station below majority of generators in terms of the total installed Capacity of the Pooling Sub-station.
- 3.17** QCA shall keep TNSLDC indemnified at all times and shall undertake to indemnify, defend and save the TNSLDC harmless from any and all damages, losses including commercial losses due to forecasting error, claims and actions including those relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the transactions undertaken by the Generators. The QCA shall submit the indemnity bond (**Format – 2**) on Non-

Judicial Stamp Paper of value notified from time to time by the State Government at the time of registration.

4. ROLES AND RESPONSIBILITIES OF GENERATORS:

- 4.1** The Generators in the Pooling Sub-station shall appoint QCA and submit authorization as per **Annexure – I**, for registration of QCA at TNSLDC.
- 4.2** The Generator shall not appoint and authorize multiple QCAs for a particular Pooling Sub-station. In such case, the authorization provided by the Generator shall be treated as invalid & TNSLDC shall process the application of the QCA as per the provisions of this procedure and the decision of TNSLDC on registration of QCA shall be binding on such generator.
- 4.3** Once the QCA is registered, the generator/s shall not re-appoint another QCA, at least within two (2) years from the date of successful registration of the QCA at TNSLDC.

Provided that in case of defaults by the QCA, the generator/s can re-appoint another QCA by giving prior notice of two months to TNSLDC and the process of registration of new QCA shall be carried in accordance with these regulations and procedures.

- 4.4** All the generators shall save and store the block-wise generator injection data or any other data desired by TNSLDC and make available the same to their respective QCA so that it could be sent to TNSLDC within (7) days from the date of demand from TNSLDC.

5. ROLES AND RESPONSIBILITIES OF TNSLDC:

- 5.1.** TNSLDC shall provide a web-based portal for use by QCA with login and password facility for:

- Online registration/de-registration of QCA
- Uploading of Day ahead and Week ahead Generation Forecasts
- Uploading of the revisions in Schedules in accordance with these Procedures and Regulations.
- Communication of Grid Constraints and curtailments if any.

5.2. The TNSLDC shall be responsible for scheduling, communication, coordination with QCAs. Forecasting of the renewable energy generation shall be done by the TNSLDC and the forecast will be available on the website. The generation forecast shall be done on the basis of the weather data provided by the Forecasting Agency. However, the forecast by the TNSLDC shall be with the objective of ensuring secure grid operation.

5.3. The TNSLDC shall maintain records and accounts of the time block-wise Schedules, the actual generation injected and the deviations, for the Pooling Sub-station and individual Generators separately.

5.4. The TNSLDC shall Maintain State Deviation Settlement Account for Wind and Solar Generators.

6. REGISTRATION AND DE-REGISTRATION PROCEDURE:

A. Registration as a Qualified Co-ordinating Agency (QCA):

6.1. The application for Registration as a Qualified Co-ordinating Agency (QCA) should be submitted online through TNSLDC's web-based Software.

6.2. The QCA shall submit separate application for each Pooling sub-station. For each Pooling Sub-Station only one application shall be accepted from the QCA.

6.3. The application for Registration shall be made as per the application format for registration (**Annexure - IV**) and shall contain details such as,

- Location of the generation (Village, Taluk, District)
- Total Capacity of the Generation and inter-connection arrangement with InSTS.
- Authorization from majority of the Generators connected in the Pooling Sub-station in terms of their combined installed capacity for appointment as QCA. (Not applicable if Generator is connected through dedicated inter-connection facility with the Grid)
- Names along with individual installed capacity of generation of the constituents to whom QCA is representing.

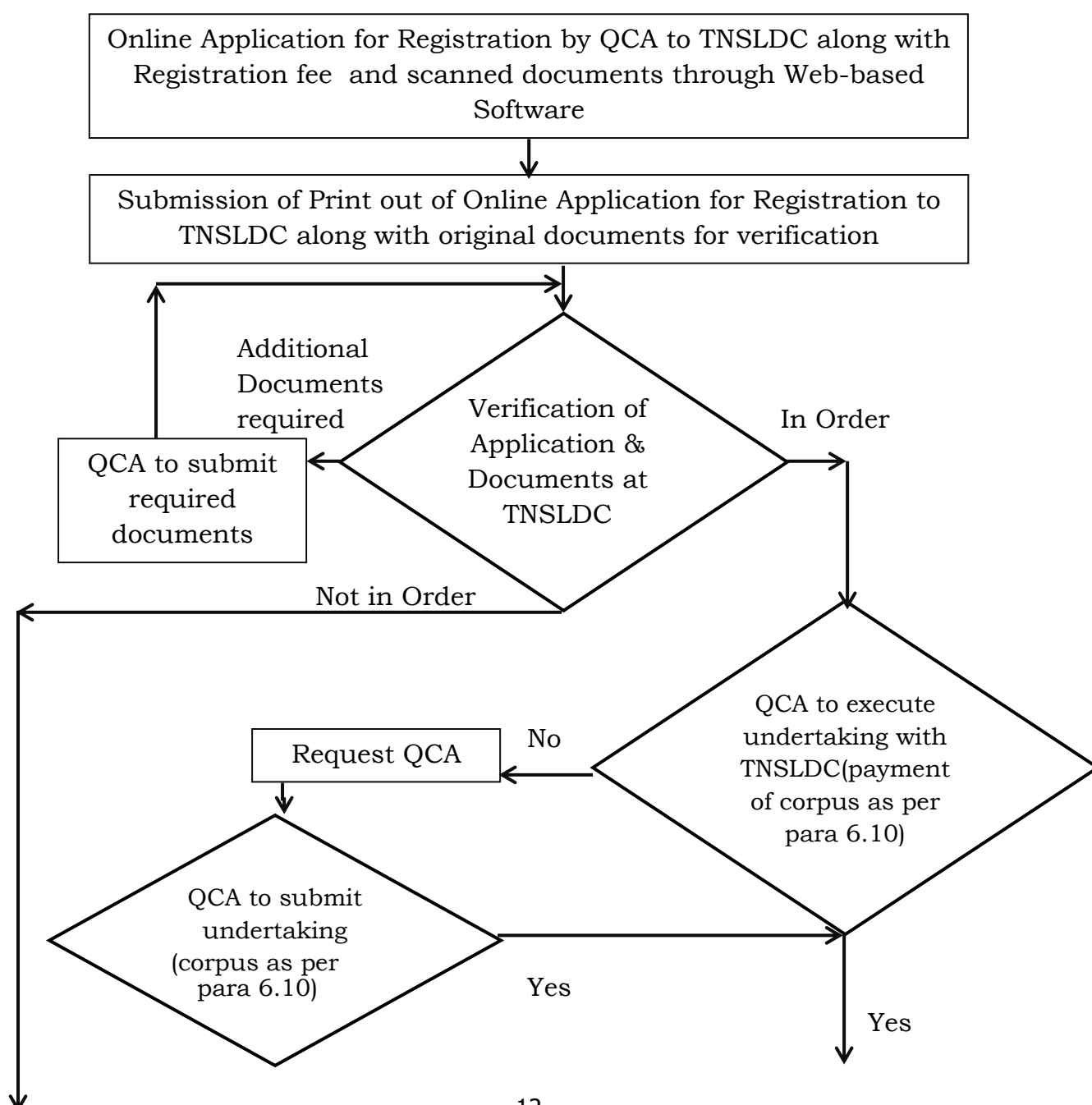
- Metering arrangements (ABT Meter with DLMS Compliance, Modem, Data Concentrator Unit (DCU) etc.,)
 - Communication arrangements with TNSLDC for Real time Generation, Meter reading for accounting etc.
- 6.4.** The Application for Registration shall be accompanied by a non-refundable processing fee as follows payable through NEFT or any other modes:
- For 1-50 MW – Rs.10,000/-.
- Above 50 MW and upto 100 MW – Rs.15,000/-.
- Above 100 MW – Rs.20,000/-
- The scanned copies of the required documents shall be uploaded while submitting application.
- 6.5.** Once the application is submitted, the print of online application with sign and seal along with required documents in original, shall be submitted to TNSLDC. Without receipt of the hard copy for verification purpose, TNSLDC shall not process the online application for registration.
- 6.6.** The details of Nodal Officer from TNSLDC for processing applications for Registration and day to day activities towards forecasting, Scheduling and Revisions thereof shall be displayed on TNSLDC's website for smooth implementation of these procedures.
- 6.7.** An incomplete Application, and/or an Application not found to be in conformity with these Procedures and Regulations, shall be rejected.
- 6.8.** The time period for registration of QCA shall be (15) working days from the date of receipt of all the documents & information in complete shape to TNSLDC.
- 6.9.** After verification of all the documents, the QCA shall execute the undertaking with TNSLDC as per Annexure-V wherein it is mentioned that QCA shall undertake all technical and commercial responsibilities on behalf of the Constituents as per the prevalent TNERC Regulations.
- 6.10.** A time period of one month prior to commencement of commercial mechanism as may be notified, the QCA shall provide payment security

through an irrevocable Letter of credit to TNSLDC. The details of the same shall be in accordance with Clause No. 13.6 of the said procedure.

6.11. Once the QCA executes undertaking with TNSLDC as per Annexure-V and deposits the required fee, TNSLDC shall register the QCA and issue a '**username**' and '**password**' for accessing the website for further activities such as uploading of day ahead / week ahead forecasts, revisions to existing schedules etc.

6.12. The above procedure is depicted below in the form of Flow chart for easy understanding.

Flow Chart for Registration of QCA



No



Cancel Application for
Registration
(QCA to apply afresh)

Issue '**username**' and '**Password**' to
QCA for further activities such as
Forecasting, Scheduling, Revisions, etc.

B. De-registration as a Qualified Co-ordinating Agency (QCA):

Case - 1: Own De-registration:

- 6.13. The QCA may request TNSLDC for de-registration as QCA, however, in such case, it shall be the responsibility of the QCA to settle all the commercial obligations of both TNSLDC and Generators to whom it is representing.
- 6.14. Three (3) months prior notice to be served to all the generators to whom it is representing for de-registration with copy to TNSLDC.
- 6.15. The generator/s shall be responsible for appointing new QCA and ensure registration of new QCA at TNSLDC within this notice period, post which generation shall not be scheduled.

Case – 2: De-registration due to non-authorization of Generator:

- 6.16. Two months prior notice to be served by the generator to the QCA for non-authorization with copy to TNSLDC, subject to Clause No. 4.4.
- 6.17. The generator/s shall be responsible for appointing new QCA and ensure registration of new QCA at TNSLDC within this notice period, post which generation shall not be scheduled.
- 6.18. Before de-registration, the generator shall ensure that all the commercial settlements pertaining to it has been completed by the QCA with TNSLDC.

Case – 3: De-registration under default condition:

- 6.19. The TNSLDC shall initiate the process of de-registration, if the condition as per Clause No. 3.16 is violated by the QCA.
- 6.20. The TNSLDC shall initiate the process of de-registration, in case of default conditions mentioned at Clause No. 14.1.

6.21. In such case, the process of de-registration shall be initiated as per Clause No. 14.2.

6.22. The generator/s shall be responsible for appointing new QCA and ensure registration of new QCA at TNSLDC within this notice period, post which generation shall not be scheduled.

7. TNSLDC FEES & CHARGES AND OTHER CHARGES:

7.1. TNSLDC fee and charges including scheduling and system operating charges and other charges shall be payable as per the applicable TNERC Regulations/Orders.

8. COMMUNICATION MODE AND PROTOCOL:

8.1. SCADA from the turbine level to Pooling Sub-station in real time shall be provided up to the Pooling Sub-Station by QCA/Generators. The data from the Pooling Sub-station to TNSLDC shall be transmitted with IEC: 104 protocol along with communication without any interruption by QCA.

The requirements for data visibility and interfacing requirements at TNSLDC Chennai/REMC Chennai/Sub LDC Erode/ Sub LDC Madurai are as detailed below.

- The Remote Terminal Unit under the proposed scheme shall be capable of communication with LD Centres in IEC-104 Protocol.
- Communication media such as BSNL/MTNL leased circuit, MPLS, TATA Communication, Reliance Communication, VSAT etc. with latency less than 800ms may be used for data transmission. The typical bandwidth requirement for real-time point to point data inter-connection is 64 kbps for communication between Pooling Sub-station/ Generator (in case of individual generator) and TNSLDC and depends upon data volume.
- Wind/Solar Generators shall submit request letter along with Single Line Diagram of their plant area to TNSLDC and to transmit the data parameters as per **Annexure- III** in real time mode.

- Wind/Solar Generators shall submit complete proposal along with schematic diagram for RTU installation and data communication with LD Centres with the above confirmations/clarifications.
 - Integration of Wind/Solar Generator station data into the SCADA systems at TNSLDC Chennai/REMC Chennai/Sub LDC Erode/ Sub LDC Madurai on IEC 104 protocol.
 - Completion of all above is under the scope and responsibility of Wind/Solar Generators Station.
- 8.2.** Integration of Real time data from RTU of any make in IEC-104 Protocol is to be done in TNSLDC SCADA system. The work of integration will be carried out by TANTRANSCO.
- 8.3.** QCA shall be responsible for providing a redundant and reliable communication link between Pooling Sub-station and TNSLDC and maintained by the QCA.

9. FORECASTING AND SCHEDULING:

- 9.1.** Forecasting of Wind/Solar injection on Pooling Sub-station basis shall be done by the TNSLDC for overall planning of resource requirements on day ahead basis in view of secure grid operation.
- 9.2.** The QCA shall provide Pooling Sub-station wise forecasting for the Wind/Solar generators connected to Pooling Sub-station to TNSLDC based on their own forecast or may adopt forecast carried out by TNSLDC.
- 9.3.** In the event of QCA adopting forecast provided by TNSLDC, charges amounting to Rs. 2,000/- per Pooling Sub-station per day, shall be paid by the QCA to TNSLDC. The consequences of any error in such forecast provided by TNSLDC which results in a deviation from scheduling shall be borne by the concerned Generators through their QCA and QCA shall indemnify TNSLDC on account of the commercial impact.
- 9.4.** The TNSLDC shall consolidate and forecast, based on various parameters and weather data obtained from any forecast service provider.

9.5. The submission of Pooling Sub-station wise day ahead forecast shall be in accordance with the time lines specified in TNERC Scheduling & Despatch Code.

9.6. The Pooling Sub-station wise day ahead forecast submitted by QCA shall be on 15 min time block basis in MW up to two decimal places.

9.7. The QCA may revise Pooling Sub-station schedule in the TNSLDC Web-based Software for the current day;

Provided that, such revisions shall be effective from the fourth (4th) time block and *a maximum of sixteen (16) revisions during the day starting from 00.00 hours of a particular day.*

9.8. Process for submission of a day ahead Forecast for Intra-State Transactions is as follows:

		RE PSS Scheduling	
<u>Activity No.</u>	<u>Time in 24 Hours</u>	<u>Process</u>	<u>RE PSS</u>
		Configuration in Software	Available capacity, Contract quantum at the level of RE PSS.
1	10:00	Submission by QCA	PSS wise Available Capacity and Declared Capability.
2	10:15	Acknowledgement by Software	Software shall acknowledge the receipt of declared capabilities. Also software shall log and send warning to QCA who have not submitted.
3	18:30	Computation by Software	Dispatch Schedule
4	22:30	Submission of revisions by QCA	Revised Available capacity and declared capability

5	23:15	Computation by Software	Final Day ahead Dispatch Schedule of RE PSS
6	23:30	Issue of Final day ahead individual and consolidated dispatch schedules and drawal schedules after approval by TNSLDC.	

Note: No revision in Forecast shall be accepted after 22:30 Hrs.

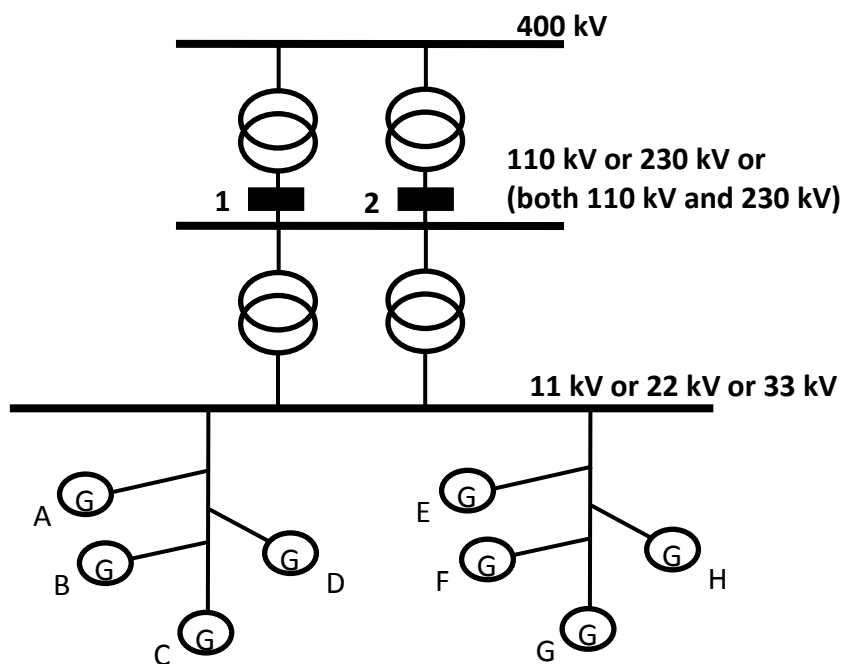
9.9. The various cases indicating point of Forecast and Scheduling are as follows:

Case – 1:

Single Generator or group of generators connected at 11 kV or 22 kV or 33 kV level of EHV Pooling Sub-Station, selling power within the State:

In this case, a group of generators ('A' to 'H') are connected at 11/22/33 kV level of the EHV Pooling Station through common 11/22/33 kV feeders.

In such case, the Forecast shall be done by the QCA at Points 1&2 together. Scheduling and Accounting shall be done by TNSLDC at Points '1&2' together for the Pooling Sub-Station. The QCA shall de-pool the deviation charges among respective generators separately based on the mechanism developed within themselves.

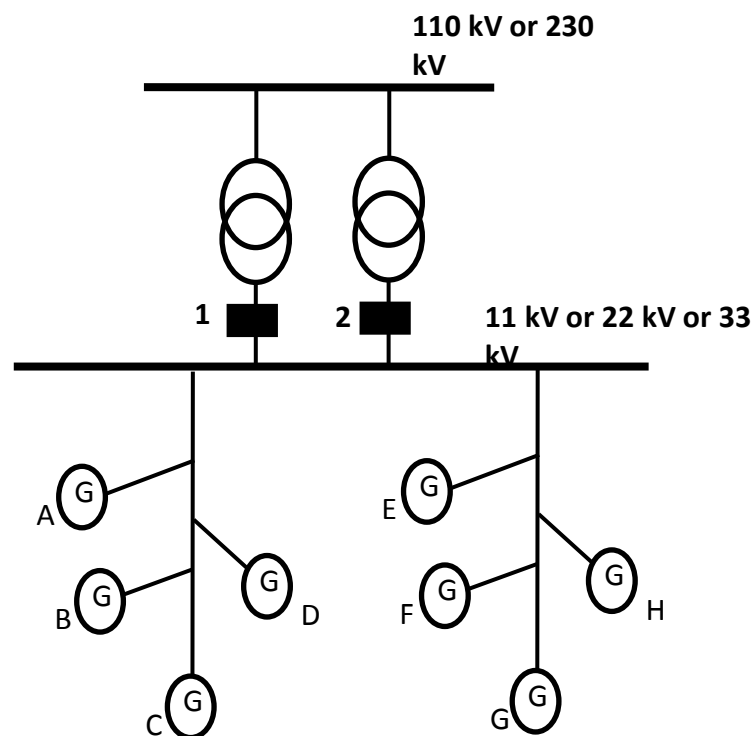


Case – 2:

Single Generator or group of generators connected at 11 kV or 22 kV or 33 kV level of EHV Pooling Sub-Station, selling power within the State:

In this case, a group of generators ('A' to 'H') are connected at 11/22/33 kV level of the EHV Pooling Station through common 11/22/33 kV feeders.

In such case, the Forecast shall be done by the QCA at Points 1&2 together. Scheduling and Accounting shall be done by TNSLDC at Points '1&2' together for the Pooling Sub-Station. The QCA shall de-pool the deviation charges among respective generators separately based on the mechanism developed within themselves.



Case – 3:

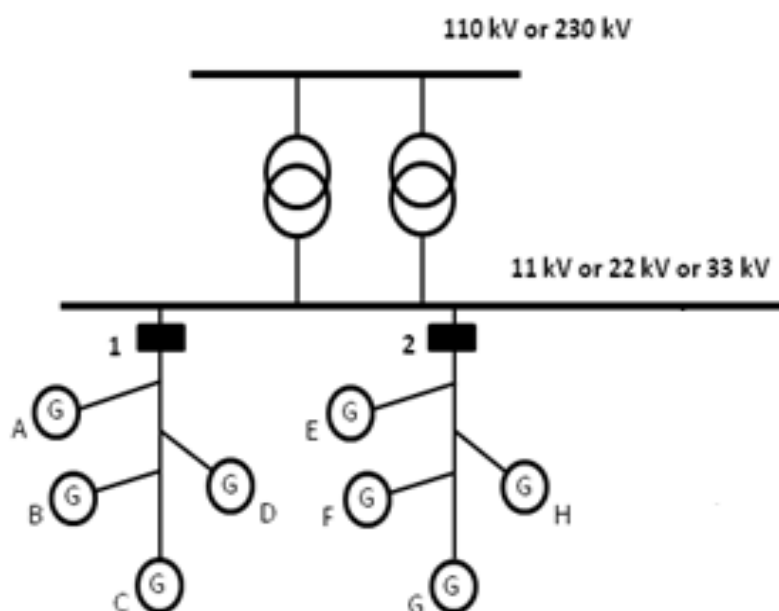
Single Generator or group of generators connected at 11 kV or 22 kV or 33 kV level of EHV Pooling Sub-Station, selling power within and outside the State:

In this case, multiple generators ('A' to 'D') are connected at 11/22/33 kV level of the EHV Pooling Station through common 11/22/33 kV feeders selling power within the State.

The Generators 'E' to 'H' are connected at 11/22/33 kV level of the EHV Pooling Sub-Station through common feeder selling power outside the State.

In such case, the QCA shall submit separate feeder-wise forecast at Point '1' and '2' i.e. for Intra-State and Inter-State respectively. TNSLDC shall Schedule at Point '1' being Intra-State and at State Periphery for Point '2' by applying Transmission losses as by Hon'ble TNERC.

The QCA shall de-pool the deviation charges among respective generators separately based on the mechanism developed within themselves.



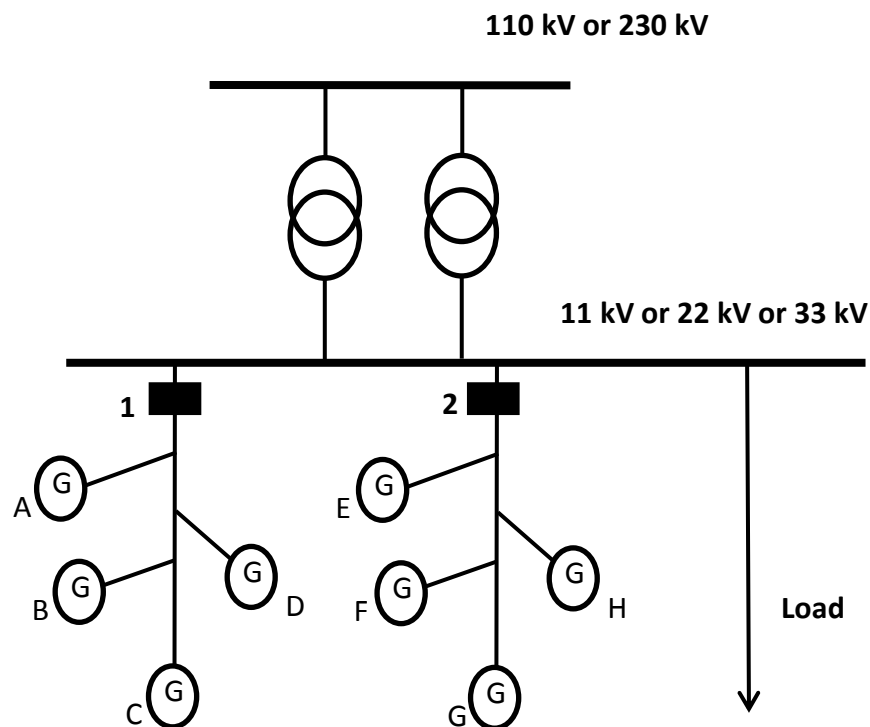
Case – 4:**Multiple Generators connected at 11 kV or 22 kV or 33 kV level of EHV Mixed Pooling Sub-Station and selling power within the State:**

In this case, multiple generators ('A' to 'H') are connected at 11/22/33 kV level of the EHV Pooling Station through common 11/22/33 kV feeders selling power within the State.

In such case, the Forecast shall be done by the QCA at Points 1&2 together. Scheduling and Accounting shall be done by TNSLDC at Points '1&2' together for the Pooling Sub-Station.

The QCA shall de-pool the deviation charges among respective generators separately based on the mechanism developed within themselves.

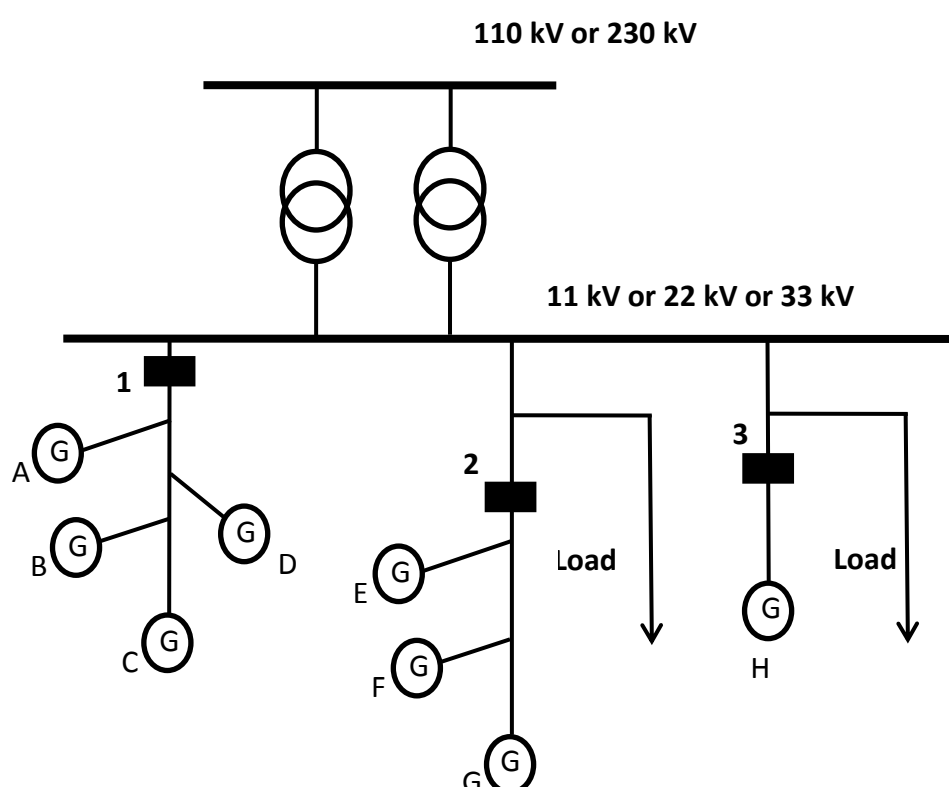
For selling power outside the state (inter-state), dedicated feeder is mandatory.

**Case – 5:**

Multiple Generators connected at 11/22/33 kV level of EHV Mixed Pooling Sub-Station with mixed feeders.

In this case, Generators 'A' to 'D' and 'E' to 'G' and 'H' are connected to a Pooling Station through mixed feeders (both Distribution Load and Generators) with interconnection points at '1' and '2' and '3' respectively.

TNSLDC shall carry out scheduling and accounting at Points '1,2&3' for Pooling Station as a whole and the QCA shall de-pool the deviation charges among respective generators separately based on the mechanism developed within themselves.



10. ENERGY ACCOUNTING:

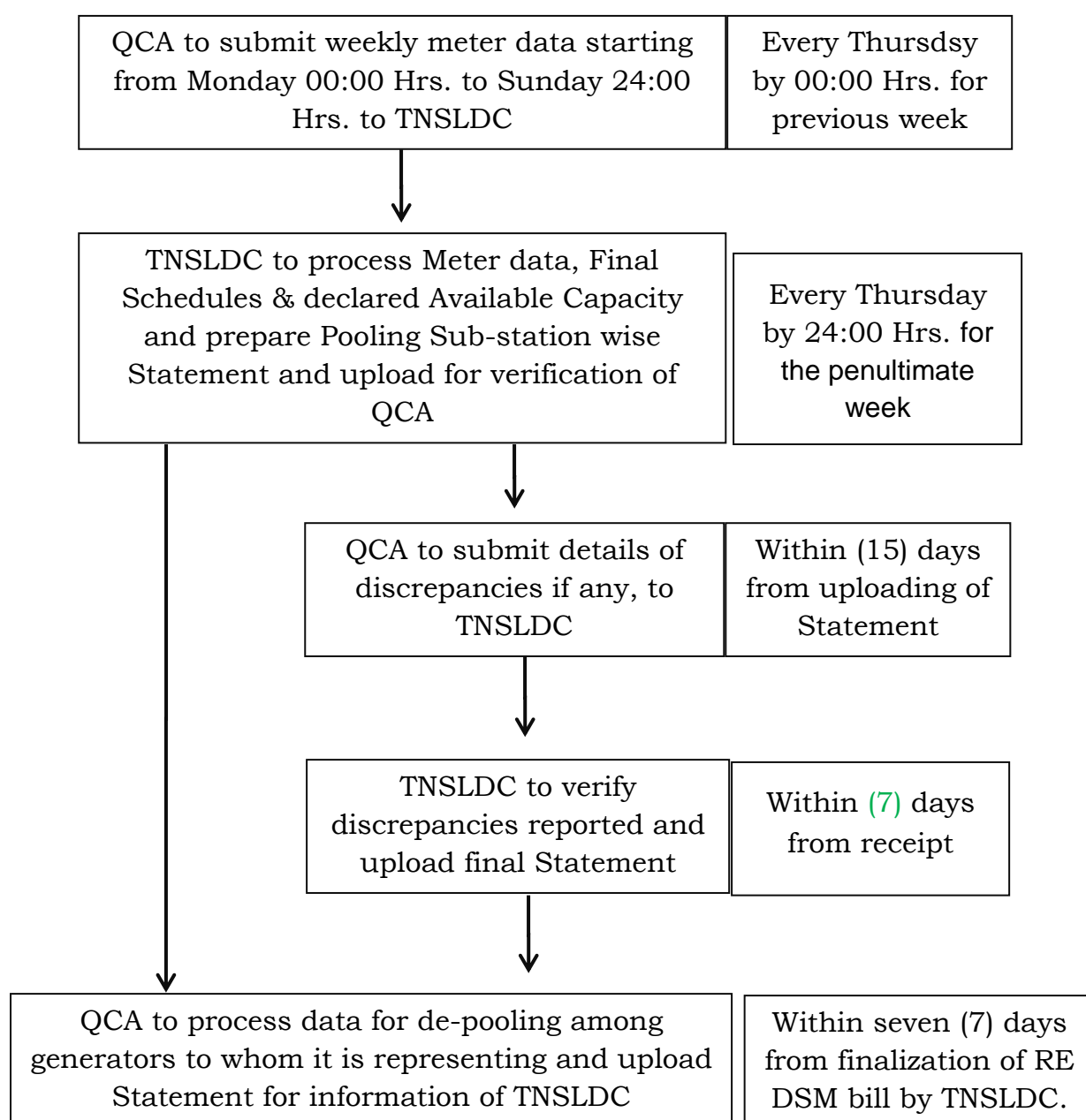
- 10.1.** The energy accounting for the purpose of deviations shall be undertaken on the basis of the data recorded by the ABT Meter with DLMS provided at the point of interconnection of LV side of 400/230/110kV TANGEDCO/TANTRANSCO Pooling Sub Stations capable of recording the energy in 15-minute time blocks.
- 10.2.** By 00.00 hours on every Thursday, the QCA shall furnish weekly meter readings of Wind/Solar generators connected to Pooling Sub-station of the

previous week starting from Monday 00:00 hrs to Sunday 24:00 Hrs, to the TNSLDC, in addition to the data provided to the Supervisory Control and Data Acquisition (SCADA) Centre, through the software developed for communication & data exchange with QCAs for the purpose of energy accounting under these Regulations.

- 10.3.** TNSLDC shall process the data provided by all the QCAs' and furnish processed data to respective QCA on every Thursday mid-night (24:00 Hrs) for the penultimate week starting from Monday 00:00 hrs to Sunday 24:00 Hrs. for the preparation and publishing the Weekly Energy Deviation Account to the QCA, for the Pooling Sub-station or the stand-alone Generator, as the case may be.
- 10.4.** All accounts relating to de-pooling of deviations charges shall be prepared by the QCA on a weekly basis, based on Pooling Sub-station level inputs from the TNSLDC, and shall be accessible to the TNSLDC through an IT-enabled system and software.
- 10.5.** The QCA shall communicate any discrepancies to TNSLDC within 15 days which shall be corrected forthwith by TNSLDC after due verification.

Any of the discrepancies reported after 15 days shall not be considered by TNSLDC and in such case, the Statement prepared by TNSLDC shall be final.

10.6. The process chart for Accounting is as below:



10.7. To start with, DSM accounts may be settled on monthly basis until SLDC becomes proficient to settle deviation charges on weekly basis

11. DEVIATION ACCOUNTING:

11.1. TNSLDC shall compute the absolute error for each Pooling Sub-station and shall calculate the deviation charges in accordance with the regulations.

11.2. TNSLDC shall determine the impact of deviation of Wind & Solar injection at Pooling Sub-station from schedule and its contribution on the total deviation charges at the State periphery as per SRPC weekly DSM bills.

11.3. TNSLDC shall compute the deviation charges and issue bills to the QCAs'.

11.4. Timelines for issuance & rectification of DSM Account and commercial settlement shall be as follows:

Sl.no	Action	Responsibility	timelines
1	Publish Weekly DSM Account on Website. The Account shall have day-wise, block-wise Deviation Charges, Schedule, Actual for each pooling station under QCA.	TNSLDC	Thursday of Every Week. (read with Clause 10.7)
2	File comments / rectification requests.	QCA	Within 15 days from the date of publishing of the DSM Account on the website.
3	Carry out rectification / modifications of DSM account and convey the same through email / on website.	TNSLDC	Within 6 days after receiving the rectification request from QCA.
4	DSM Charges payable to Pool Account.	QCA	Within 10 days from the date of issue of DSM Account by TNSLDC.
5	If payments against the Charges for Deviation are	QCA	In case the payment is not made even after a lapse of 60 days

	<p>delayed by more than two days, i.e., beyond twelve (12) days from the date of issue of the statement by the TNSLDC, the defaulting QCA shall have to pay simple interest@ 0.06% for each day of delay.</p>		<p>from date of issuance of DSM Account. Process to invoke LC shall be initiated beside any other action as permissible under law / regulations.</p>
6	<p>DSM Charges receivable from Pool Account.</p>	<p>TNSLDC or Agency maintaining the Pool Account</p>	<p>Payment to QCA entitled to receive DSM Charges shall be made within 2 working days of receipt of payments in the State Deviation Pool Account. Provided that –</p> <p>a) 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</p>

			<p>rata basis from the balance available in the Deviation Pool Account.</p> <p>b) 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.</p>
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12. DEVIATION CHARGES METHODOLOGY:

12.1. All Pooling Sub-stations shall be classified in four categories i.e.

- a. **Intra-State Pooling Sub-station:** where all wind & solar generators connecting through feeders are having delivery point within the State.
- b. **Inter-State Pooling Sub-station:** where all the wind & Solar generators connecting through feeders are having delivery point outside the State.
- c. **Mixed Pooling Sub-station:** where some of the feeders are having delivery point outside the State and balance within the State.
- d. **Mixed Feeders Pooling Sub-station:** where some of the feeders are having both distribution load and RE generating stations.

12.2. Methodology for Intra-State Transactions:

12.2.1. Charges towards sale of Energy shall be settled by the Procurer on the basis of their actual generation, whereas the charges towards deviation of Energy from its given schedule shall be settled by the QCA.

- 12.2.2. The charges towards deviation in case of actual generation are lower/more than scheduled generation (Under-Injection/Over-Injection) shall be in accordance with the TNERC FSDSM 2019 regulation.
- 12.2.3. The % error shall be calculated on the basis of available capacity and deviation as Actual – Schedule and % error shall be calculated by rounding up to second decimal place.
- 12.2.4. Illustrative example for calculation of deviation charges for five Pooling Substations is as under in **Table - 1 & Table – 2** for both inter and intra-state transactions respectively.
- 12.2.5. The total deviation charges remitted on account of deviation 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 from time to time through separate order.
- 12.2.6. The total annual energy at the respective pooling substation for the financial year shall be calculated and multiplied with ceiling rate as specified in the clause 12.2.5.
- 12.2.7. Any excess amount of deviation charges remitted beyond the capped amount over the financial year shall be refunded or credited in the account of concerned QCA and adjusted/ refunded to the generator(s) through respective QCA in the next FY i.e adjusted against the deviation charges to be paid for two months in the following FY in April, May and the balance refunded by 15th of June.

Table – 1

Pooling Sub-station wise deviation charge calculation (for One Time block) ACP rate of Rs.2.57 is considered as on 01-01-2020						
Wind Pooling Sub- station No	Available Capacity (kWh)	Schedule (kWh)	Actual Injection (kWh)	Deviation (KWh)	Inter Absolute Error (%)	Inter State Dev. Charges payable by Individual Pooling Sub- stations (F)
	(A)	(B)	(C)	(D)	(E)	
W.P.S.	AvC	Sch.	Act. Inj.	Dev.	Dev.	Inter Deviation Charges (Rs.) *
P.S. - 1	2500	2500	2300	-200	8	-514
P.S. - 2	2500	2500	2100	-400	16	-1066.55
P.S. - 3	2500	2500	1800	-700	28	-1966.05
P.S. - 4	2500	2500	1600	-900	36	-2621.5
P.S. - 5	2500	2500	2750	250	10	642.5

Note:

* Negative sign indicates the charges payable to deviation pool account

Positive sign indicates the charges receivable from deviation pool account

Table – 2

Pooling Sub-station wise deviation charge calculation (for One Time block)						
Wind Pooling Sub-station No	Available Capacity (kWh)	Schedule (kWh)	Actual Injection (kWh)	Deviation (KWh)	Intra Absolute Error (%)	Intra State Dev. Charges payable by Individual Pooling Sub- stations (F)
	(A)	(B)	(C)	(D)	(E)	
W.P.S.	AvC	Sch.	Act. Inj.	Dev.	Dev.	Intra Deviation Charges (Rs.)*
P.S. - 1	2500	2500	2250	-250	10	0
P.S. - 2	2500	2500	2000	-500	20	-62.50
P.S. - 3	2500	2500	1750	-750	30	-187.50
P.S. - 4	2500	2500	1500	-1000	40	-437.50
P.S. - 5	2500	2500	2750	250	10	0

12.3. Methodology for Inter-State Transactions:

12.3.1. Inter-State transactions at a Pooling Sub-station shall be permitted only if the concerned Generator or group of generators is connected through a separate feeder.

12.3.2. The Generator(s), through the QCA, shall submit a separate Schedule for its energy injection at Pooling Sub-station, in accordance with these Regulations, to the TNSLDC.

12.3.3. The Inter-State Schedule submitted by the QCA shall be grossed-up to State Periphery by applicable transmission losses.

12.3.4. The TNSLDC shall prepare the deviation settlement account for such Generator on the basis of measurement of the deviation in the energy injected as per regulation 8 of “TNERC FSDSM 2019 regulation”.

12.3.5. The rate for deviation settlement shall be based on the highest marginal cost of power for the day or frequency linked deviation charges of the corresponding time block whichever is higher.

12.3.6. The QCA shall pay the Deviation Charges prepared by TNSLDC to the State Deviation Pool Account (Wind and Solar).

12.3.7. The Deviation Charges for actual injection that is lower/higher than the scheduled generation (Under-Injection/Over-Injection) by Generators selling or consuming power outside Tamil Nadu shall be in accordance with "TNERC FSDSM 2019 regulation".

12.3.8. Deviations in respect of Inter-State and Intra-State transactions shall be accounted separately at each Pooling Sub-station.

12.3.9. The TNSLDC shall provide separate DSM accounts for Inter-State and Intra-State transactions to the QCA, who shall settle the Deviation Charges with the concerned Generators.

13. DEVIATION CHARGES PAYMENT MECHANISM:

13.1. The QCA shall open Bank Account in any Nationalized Bank and intimate the details of the same to TNSLDC.

13.2. The Deviation Charges shall be paid by the QCA within ten (10) days from the issue of the accounts and billing by the TNSLDC.

13.3. If payments of the above deviation 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.

13.4. The responsibility of ensuring the payment of the Deviation Charges to the TNSLDC by the QCA shall remain that of the concerned Generators.

- 13.5.** After successful registration of the QCA, it shall be the responsibility of the QCA to provide payment security through an irrevocable Letter of credit (LC) which shall be maintained as per Clause no. 13.6.
- 13.6.** The LC amount shall be the interest free amount equivalent to Rs.25,000/- (Twenty Five Thousand Rupees only) per MW for Solar Generation and Rs. 50,000/- (Fifty Thousand Rupees only) per MW for Wind Generation.
- 13.7.** If the QCA fails to pay deviation charges within sixty (60) days from the issue of account and billing, TNSLDC shall encash the LC amount of the concerned QCA.
- 13.8.** In case of insufficient/exhausted LC amount, QCA shall make up LC amount within thirty (30) days from receipt of such information from TNSLDC. Failure to make up LC amount within prescribed time limit, the Wind/Solar generation which QCA is representing shall not be scheduled. SLDC shall publish the names of QCAs under default in the website.

14. MECHANISM FOR MONITORING COMPLIANCE:

14.1. The event of breach or default of the procedure shall be as follows:

- 14.1.1. Non-payment or delay in payment of Deviation Charges.
- 14.1.2. Non-compliance of any of the terms/conditions/rules outlined under this procedure.
- 14.1.3. Non-compliance of any of the directives as per the provisions of the regulations issued by TNSLDC.
- 14.1.4. Obtaining registration on the basis of false information or by suppressing material information.
- 14.1.5. QCA fails to provide schedules continuously for 10 days.
- 14.1.6. Non-availability of real time data continuously for three (3) days without justified reason.
- 14.1.7. In case the Available Capacity (AvC) is intentionally and repeatedly mis-declared by the QCA.

14.1.8. Non-submission of accounts to TNSLDC relating to de-pooling of deviations charges prepared by the QCA.

14.1.9. Non-payment of RE DSM charges to RE DSM Pool by QCA for consecutive three (3) weeks.

14.1.10. In case the QCA is insolvent.

14.1.11. In case of continued default of statutory complaints leading to declaration of wilful defaulter by competent authority

14.2. Consequences for event of default:

14.2.1. If schedule is not provided by the QCA (default as per 14.1.5) then the previous day's schedule (d-1) for those non-submission days shall be considered and DSM charges shall be computed accordingly.

Provided a lead generator may take responsibility to provide forecast and schedule during the period of default of QCA informing SLDC of the act

14.2.2. In case of default for acts covered under as per 14.1.1 to 14.1.11 without prejudice to other actions as may be taken by TNSLDC, the TNSLDC shall issue a notice of period not less than 15 days for revocation of registration of QCA and non- scheduling of pooling Sub-station to which said QCA represents and adequate opportunity shall be given to QCA to present its case before TNSLDC.

14.2.3. In case QCA fails to address/rectify the breach expressed by TNSLDC in the Notice within stipulated time, the TNSLDC shall proceed with revocation of registration of QCA and disconnection from grid.

15. GRIEVANCE REDRESSAL:

15.1. All Complaints regarding unfair practices, delays, discrimination, lack of information, supply of wrong information or any other matters in the first instance shall be mutually resolved by the QCA and TNSLDC and only in

the event of irreconcilable differences/ disputes the matter shall be referred to the Commission for clarification or adjudication.

- 15.2.** Any disputes between QCA and concerned generators shall be governed as per dispute resolution mechanism under their agreement and in the event of disagreement, shall be subject to jurisdiction of the TNERC only after recording that the dispute is irrecoverable mutually. Pending the decision of the State Commission, the directions of the TNSLDC shall be complied by the QCA and concerned generator(s).

16. REMOVAL OF DIFFICULTIES:

- 16.1.** In case of any difficulty in implementation of this procedure, TNSLDC may approach the Commission for review or revision of the procedure with requisite details.
- 16.2.** In the event of any inconsistency between these procedures and the Regulations, the provisions of the Regulations shall prevail and any dispute arising out of the implementations of these procedures shall be referred to the Commission either by the TNSLDC or by the QCA or the individual generators and the decision of the Commission thereon shall be final.

17. GENERAL:

- 17.1.** All costs/expenses/charges associated with the application, including bank charges, Affidavits etc. shall be borne by the applicant.
- 17.2.** The Generators and QCA shall abide by the provisions of the Electricity Act, 2003, the TNERC Regulations and Indian Electricity Grid Code and TNERC (State Grid Code) Regulation - 2005, and applicable CERC and TNERC regulations as amended from time to time.
- 17.3.** This procedure aims at easy and pragmatic Forecasting, Accounting and Settlement of Deviations for Wind and Solar Generations. However, some teething problems may still be experienced. The various implications would be known only after practical experience is gained by way of implementing these procedures. In order to resolve the same, this procedure shall be reviewed or revised by the TNSLDC with prior approval of Commission.

17.4. TNSLDC shall undertake Pilot run of software for RE DSM and after go-live of RE DSM software there shall be trial run period of twenty four weeks for ensuring implementation of RE DSM in correct sense as envisaged in the regulation. TNSLDC shall intimate the proposed date of go-live of DSM software prior to one month.

18. ANNEXURES & FORMATS:

18.1. List of Annexures and Formats are listed below:

Sr. No.	Particulars	Annexure / Format No.
1	Consent/Authorization Letter from Generator for appointment of QCA	ANNEXURE - I
2	Format for submission of Forecast & Revision	ANNEXURE - II
a	For Forecast and Schedule Data to be submitted by QCA	FORMAT – A
b	For Revision of Availability & Revision	FORMAT – B
3	Real-time Data Telemetry requirement	ANNEXURE - III
4	Application for Registration of QCA	ANNEXURE - IV
5	Technical Data of individual Generators	FORMAT – 1
6	PPA details of individual Generators in the Pooling Sub-station	FORMAT – 2
7	Format for Indemnity Bond to be submitted by QCA	FORMAT – 3
8	Undertaking to be given by Prospective QCA At The Time Of Registration	ANNEXURE - V
9	Declaration	ANNEXURE - VI

ANNEXURES AND FORMATS

Annexure – I

Consent/Authorization Letter from Generator for appointment of QCA

Proforma Consent Letter

Date:

To,
The Chief Engineer,
Grid Operation,
State Load Dispatch Centre,
Chennai-600002.

Sub : Appointment of QCA as per TNERC (Forecasting, Scheduling and Deviation Settlement and Related Matters for Wind and Solar Generation) Regulations, 2019.

Dear Sir/Madam,

We would like to inform you that we, as the Wind/Solar power generator at Pooling Sub-station have decided to exclusively appoint _____ only as the Qualified Coordinating Agency (QCA) for Forecasting, Scheduling and Commercial Settlement, as per the TNERC (Forecasting, Scheduling and Deviation Settlement and Related Matters for Wind and Solar Generation) Regulations, 2019.

Kindly find below the details of our capacity at _____ (Name) Pooling Sub-station having ____ MW.

S. No	Customer Name	No of WTGs/Panels	Contact Person	E-mail ID & Contact No.	Capacity in MW

We would like to state that henceforth the role of QCA at _____(Name)
Pooling Sub-station will be taken care by _____

Contact Details:

- **Contact Person-1:**

Name & Designation:

Address:

Phone No. (O):

Mobile No.:

E-mail:

- **Contact Person-2:**

Name & Designation:

Address:

Phone No. (O):

Mobile No.:

E-mail:

- **Contact Person-3:**

Name & Designation:

Address:

Phone No. (O):

Mobile No.:

E-mail:

Details of Forecasting Operations Desk:

Address:

Phone No. (O):

Mobile No.:

E-mail:

This is for your kind information and records.

Regards,

Date: _____

Signature:

Place: _____

Authorized Signatory

Name:

Designation:

Name of Generator: _____

Seal:

Annexure – II

**FORMAT – A: For Forecast and Schedule Data to be submitted by QCA for
date: dd/mm/yyyy**

(to be submitted a day in advance)

Pooling Sub-station Name: _____

Pooling Sub-station No.: _____

Name of QCA:

15 Min time block (96 Block in a day)	Time	Available Capacity (MW) - Day Ahead	Day Ahead Forecast (MW)
1	00:00 – 00:15		
2	00:15 – 00:30		
3	00:30 – 00:45		
4	00:45 – 01:00		
...			
...			
95			
96			

**FORMAT – B: for Revision of Availability & Revision for
date: dd/mm/yyyy**

(to be submitted on the day of actual generation by QCA)

Pooling Sub-station Name: _____

Pooling Sub-station No.: _____

Name of QCA:

Revision No.: _____

15 Min time block (96 Block in a day)	Time	Current Available Capacity (MW)	Current Schedule (MW)
1	00:00 – 00:15		
2	00:15 – 00:30		
3	00:30 – 00:45		
4	00:45 – 01:00		
95			
96			

Annexure – III

Real-time Data Telemetry requirement (Suggested List)

Wind turbine generating plants:

- Turbine Generation (MW/MVAR)
- Wind Speed (meter/second)
- Generator Status (on/off-line)- this is required for calculation of availability of the WTG
- Wind Direction (degrees from true north)
- Voltage (Volt)
- Ambient air temperature (°C)
- Barometric pressure (Pascal)
- Relative humidity (in percent)
- Air Density (kg/m^3)

For Solar generating Plants:

- Solar Generation unit/ Inverter-wise (MW and MVAR)
- Voltage at interconnection point (Volt)
- Generator/Inverter Status (on/off-line)
- Global horizontal irradiance (GHI) (Watt/m^2)
- Ambient temperature (°C)
- Diffuse Irradiance (Watt/m^2)
- Direct Irradiance (Watt/m^2)
- Sun-rise and sunset timings
- Cloud cover (Okta)
- Rainfall (mm)
- Relative humidity (%)
- Performance Ratio

Annexure - IV

Application to be submitted for Registration as a Qualified Co-ordinating Agency (QCA) under the TNERC (Forecasting, Scheduling and Deviation Settlement and Related Matters for Wind and Solar Generation) Regulations, 2019.

Sr. No.	Name of the QCA	
1	Type of Generator	Wind / Solar
2	Location of Generator (Village, Tal, District)	
3	Total Installed Capacity of Generating Station	
	Total Number of Units with details	
4	Individual or on Behalf of Group of generators	
	If on behalf of Group of generators connected to a Common Pooling Sub-station	(Please attach consent from majority of Generators in terms of combined installed capacity in the Pooling Sub-station) (Please attach copy of agreement executed with Generators)
	Details of the individual Generators in the Pooling Sub- station	(Please attach names with installed capacity of each & individual Generator in the Pooling Sub-station)
5	Name & Voltage level of the Pooling Sub-station to which Generation is connected	
	Latitude & Longitude of Pooling Sub-station	
	Schematic diagram of Connectivity with the Grid & Metering Arrangement	(Please attach)

6	Whether any PPA has been signed: (Y/N)	If yes, then attach PPA details as per Format-2
7	Metering Details	Meter No. 1. Main 2. Check
8	Contact Details of the Nodal Person	Name: Designation: Landline Number: Mobile Number: E - Mail Address:
	Contact Details of the Alternate Nodal Person	Name: Designation: Landline Number: Mobile Number: Fax Number: E - Mail Address:
	Contact Details of Control Room for Communication on Forecasting, Scheduling, Revisions, event of Curtailments etc.	Landline Number: Mobile Number: E - Mail Address:
9	Details of Payment towards Registration as QCA	
10	Technical Data of Generators	(Please attach detailed information as per Format: 1)
11	Statement of PPA of individual Generators in Pooling Sub-station	(Please attach detailed information as per Format: 2)
12	Indemnity Bond	(Please attach as per Format: 3)
13	Undertaking to be given by prospective QCA at the time of Registration.	(Please attach as per Annexure: V)
14	Declaration	(Please attach as per Annexure: VI)

15	Undertaking :	
(i)	We hereby undertake to abide by the instructions issued by the TNSLDC for compliance of regulatory provisions of TNERC (Forecasting, Scheduling, Deviation Settlement Mechanism and related matters of Wind and Solar Generating Stations) Regulations, 2019 and subsequent amendments thereof	
(ii)	We also undertake to inform TNSLDC regarding termination / breach of the agreement if any and shall not discharge the QCA functions without valid authorizations by Generators.	

Date: _____

Sign:

Place: _____

Authorized Signatory

Name:

Designation:

Name

of

QCA:

Seal:

ANNEXURE-V

UNDERTAKING TO BE GIVEN BY PROSPECTIVE QCA AT THE TIME OF REGISTRATION

Name: M/s.....

Name of QCA:

Postal address:

.....

[To be provided by the QCA on a 100 Rupees stamp paper]

1. We, as a QCA will be regulated by TNERC (Forecasting, Scheduling, Deviation Settlement and related matters of Solar and Wind Generating Stations) Regulations, 2019 and subsequent amendments thereof.
2. We shall be responsible for settlement of Deviation Charges as per the TNERC regulations for the pooling stations/ RE Generators for which we represent as a QCA.
3. We agree to provide the forecasting schedules to TNSLDC on Week ahead, day-ahead and intra-day basis on behalf of Wind and Solar pooling stations / RE Generator connected to STU / DISCOM substations.
4. We agree to provide the consent letter from all the generators connected to the pooling station/ RE Generator for being appointed as the QCA.
5. We understand that we can revise the day ahead schedules for a maximum of 16 revisions as per the regulations.
6. We agree that if there is any deviation from the schedule, then for such Energy, Deviation charges will be applicable as per the TNERC regulations and amended from time to time.
7. We shall be responsible for technical and commercial settlements with the TNSLDC on behalf of wind and solar generators connected to the pooling station and RE generators as per the Commission's Regulations.

8. We understand that TNSLDC will compute the Deviation charges of pooling stations as per TNERC FSDSM Regulations 2019 and publish the same on its website on a weekly basis.

10. We will abide by TNERC (Forecasting, Scheduling, Deviation Settlement Mechanism and related matters for Wind and Solar Generating Stations) Regulations, 2019, as amended from time to time for all transactions.

11. We shall establish necessary SCADA data of the turbine / inverter and pooling station for the purpose of monitoring and billing as per procedure.

12. We agree to provide payment security through an irrevocable Letter of credit for the amount equivalent to Rs.25,000 per MW for solar generation and Rs.50,000 per MW for wind generation.

13. We agree to provide WTG's/ Inverter wise static data and pooling stations details as per the formats specified by TNSLDC.

14. We agree that if payments against the Charges for Deviation Charges are delayed by more than two days i.e., beyond twelve (12) days from the date of issue of DSM account by TNSLDC, the defaulting QCA shall have to pay simple interest@ 0.06% for each day of delay. We further agree that in case the payment is not made by us even after a lapse of 60 days from issuance of DSM account, process to invoke LC shall be initiated by TNSLDC.

15. We agree to the above terms and conditions for registering as QCA with TNSLDC, Chennai, Tamil Nadu.

Details of Letter of Credit are enclosed.

(Name and Postal address of QCA)

.....
.....
.....
.....

For Pooling station:

TANTRANSCO/TANGEDCO Substation Station:

Voltage level at injecting point:

List of generators connected to the pooling station along with installed capacity for which consent is obtained:

1.

2.

Date: _____

Place: _____

QCA Authorized Signatory

Sign:

Authorized Signatory

Name:

Designation:

Name of QCA:

Seal:

Annexure-VI
DECLARATION

(Declaration to be Signed by the M.D./CEO/Authorised Signatory of the Applicant (QCA))

I/We_____certify that all information furnished below is/are true to the best of my/our knowledge and belief.

I/We shall abide by such terms and conditions as stipulated by TNERC, TANTRANSCO, TANGEDCO, and TNSLDC with respect to DSM for Solar & Wind from time to time.

S.No	Name of PSS	No of turbines/ Inverters	Capacity of Each turbine/Inverter	Total Capacity of PSS	Accepted as QCA (Yes or No)
			Total capacity of PSS		

I/We hereby also confirm that: I/We have entered an agreement with all the generators connected to the _____pooling Stations as QCA and the Agreement is attached.

Date: _____

Signature of the QCA

(Authorised signatory Name:)

Name:

Designation:

Name of QCA:

Seal:

Format – 1

Technical Details to be submitted by the QCA

Pooling Sub-station Name: _____

Pooling Sub-station No.: _____

Name of QCA:

For Wind turbine generating plants:

Sr. No.	Particulars
1	Type:
a	Manufacturer
b	Make
c	Model
d	Capacity
e	Unique WTG ID
f	Customer Name
g	Commissioning Date
h	Hub Height
i	Total Height
j	RPM Range
k	Rated Wind Speed
2	Details of PPA (Name of Procurer, Effective Date, Validity Date, per Unit Rate, Escalation in per unit energy rate per year (if any))
3	Performance Parameters:
a	Rated Electrical Power at Rated Wind Speed
b	Cut-In Speed
c	Cut-Out Speed
d	Survival Speed (Max. Wind Speed)
e	Ambient Temperature for Out of operation
f	Ambient Temperature for In Operation
g	Survival Temperature
h	Low Voltage Ride Through (LVRT) setting
i	High Voltage Ride Through (HVRT) setting

j	Lightening Strength (kA & in Coulombs)
k	Noise Power Level (db)
4	Rotor Parameters:
a	Hub Type
b	Rotor Diameter
c	Number of blades
d	Area Swept by blades
e	Rated Rotational Speed
f	Rotational Direction
g	Coning Angle
h	Tilting Angle
i	Design Tip speed ratio
5	Blade Details:
a	Length
b	Diameter
c	Material
d	Twist Angle
6	Generator Details:
a	Generator Type
b	Generator Speed
c	Winding Type
d	Rated Generation Voltage
e	Rated Generation Frequency
f	Generator Current
g	Rated Temperature of Generator
h	Generator Cooling
i	Generator Power Factor
j	kW/MW @ Rated Wind Speed
k	kW/MW @ Peak Continuous
l	Frequency Convertor
m	Filter - Generator side
n	Filter - Grid side

o	Turbine Power Curve
7	Transformer Details:
a	Transformer Capacity
b	Transformer Cooling type
c	Voltage
d	Winding Configuration
8	Weight Details:
a	Rotor
b	Nacelle
c	Tower
9	Over Speed Protection
10	Design life
11	Design Standard
12	Latitude
13	Longitude
14	COD Details
15	Past Generation History from the COD to the date on which DAS facility provided to TNSLDC
16	Elevation above Mean Sea level (MSL)

For Solar generating plants:

Sr. No.	Particulars
1	Latitude
2	Longitude
3	Elevation and Orientation angles of arrays or concentrators
4	The generation capacity of the Generating Facility
5	Elevation above Mean Sea level (MSL)
6	COD Details
7	Rated Voltage
8	Details of Type of Mounting: (Tracking Technology if used, single axis or dual axis, auto or manual)

9	Manufacturer and Model (of Important Components, Such as Concentrators, Inverter, Cable, PV Module, Transformer, Cables)
10	DC installed Capacity
11	Module Cell Technology
12	I-V Characteristic of the Module
13	Inverter Rating at different temperature
14	Inverter Efficiency Curve
15	Transformer Capacity & Rating, evacuation voltage, distance form injection point

Date: _____

Sign:

Place: _____

Authorized Signatory

Name:

Designation:

Name

of

QCA:

Seal:

Format – 2

Pooling Sub-station Name: _____

Pooling Sub-station No.: _____

Name of QCA:

Sr. No.	Name of Generator	Installed Capacity (MW)	PPA No.,date	Effective Date	PPA Validity Date

Date: _____

Sign:

Place: _____

Authorized Signatory

Name:

Designation:

Name of QCA:

Seal:

Format – 3

(On the Non-Judiciary Stamp Paper)

INDEMNIFICATION

The Renewable Energy generator and QCA shall keep TNSLDC indemnified at all time and shall undertake to indemnify, defend and save the TNSLDC harmless from any and all damages, losses, claims and actions, including those relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees and all other obligations by or to third parties, arising out of or resulting from the Registration of QCA under DSM Mechanism.

The Renewable Energy generator and QCA shall keep TNSLDC indemnified at all time and shall undertake to indemnify, defend and save the TNSLDC harmless from any and all damages, losses, claims and actions, arising out of disputes with TNSLDC, as well as with generators and QCA inclusive of confidentiality issues.

Date: _____

Sign:

Place: _____

Authorized Signatory

Name:

Designation:

Name of QCA:

Seal:

Abstract of Payments to be made to TNSLDC by the QCA

Sr. No.	Reason for Payment	Amount	Time of Payment
1	Registration Charges	For 1-50 MW – Rs.10000/- Above 50 MW and upto 100 MW – Rs.15000/- Above 100 MW – Rs.20000/-	During Application for Registration
2	Scheduling Charges/System Operation charges	As per TNERC Regulation/Order	For every day/per MW/day
3	Forecasting services	Rs.2,000	Per day/PSS, if availed
4	Letter of Credit (irrevocable)	Rs.25,000/- per MW for Solar Rs.50,000/- per MW for Wind	During Registration
5	Top-up of LC	As required	In the event of reduction in the amount as per Sl. No. 4
6	Mis-declaration charges (AvC)	Three times of deviation charges.	As required
7	Any other charges	As required	As required

Procedure for Deviation Settlement of State Entities and Energy Accounting of the State

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Procedure for Implementation of TNERC Deviation Settlement Mechanism and Related Matters Regulations 2019.

1.0 Preamble

- 1.1** In exercise of the powers conferred by Regulation 6 of the Deviation Settlement Mechanism and Related Matters Regulations 2019 (herein after referred to as “DSM Regulations”), this procedure is issued.
- 1.2** All applicants shall abide by the provisions of the DSM Regulations as amended from time to time and the procedures laid down hereunder.
- 1.3** The objective of the DSM 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.
- 1.4** These procedures shall be read in conjunction with TNERC Deviation Settlement Mechanism and related matters Regulations 2019, Indian Electricity Grid Code (IEGC), Tamil Nadu Electricity Grid Code (TNEGC), prevailing CERC and TNERC Regulations and orders and its amendments.
- 1.5** Whenever the Commission notifies amendments to the Regulations, irrespective of whether the procedure is amended, the amended provisions of the Regulations shall be followed and no action taken on the basis of such amendments shall be called in question on the ground that the consequent amendments were not effected to the procedures. The Tamil Nadu State Load Despatch Centre shall take immediate action to obtain approval for the amendments.
- 1.6** The TNERC Deviation Settlement and Related matters Regulations 2019 are in force from 20.3.2019. The commercial settlement i.e levy and collection of deviation charges shall commence from the date as may be notified by the Commission. TNSLDC shall ensure that the necessary infrastructure to implement

the Deviation Settlement Mechanism is put in place before the commencement of commercial mechanism.

- 1.7** Definitions for buyers, sellers and other terms shall be as per the provisions of regulation 2 of the DSM Regulations.

2.0 Applicability of procedure

- 2.1** Applicability of these procedures are as specified in the DSM Regulations i.e

- i) 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).
- ii) 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.

- 2.2** The DSM Regulations except provisions relating to commercial arrangements and the provisions regarding Deviation charges and penalty are in force from the date of publication in the Tamil Nadu Government Gazette. The provisions relating to Commercial Arrangements and the provisions regarding Deviation Charges and penalty shall come into force from the date of such notification by the Commission.

3.0 Pool Members of DSM pool account

- 1. TANGEDCO as a DISCOM
- 2. State owned Generating stations(SGS-Thermal, Hydro and Gas)
- 3. Independent Power projects (IPPs).

4. All the open access Generators including Captive Power Plants (CPP), Fossil fuel, Co-Gen and Biomass (herein after referred to as “Private Generators”) who are availing open access and supplying power to TANGEDCO through power purchase agreements under LTOA, MTOA & STOA except wind and solar generating stations.
5. Deemed distribution licensee

4.0 Scheduling

- 4.1 All the open access customers shall enter into Connection Agreement / Open Access Agreement with TANTRANSCO/TANGEDCO as applicable.
- 4.2 TANGEDCO shall enter into Connectivity, Open Access agreement with TANTRANSCO.
- 4.3 The State Entities such as all the Private generators, SGS, IPPs shall inform the SLDC of all the contracts entered by them for exchange of energy. For any changes in their contracts during the month, the same shall be intimated to SLDC then and there.
- 4.4 All Distribution Licensees shall establish a Distribution System Operation Control Centre for their Area of Distribution as per the recommendations of Forum of Regulators (FOR), which would interact with the State Load Despatch Centres (SLDCs) to keep the system secure.
- 4.5 Scheduling activities will be done with software. Scheduling of all the intrastate entities such as the Private Generators, IPPs, SGS, Distribution licencees will be done by SLDC in accordance to the provision in Indian Electricity Grid Code (IEGC), Tamil Nadu Electricity Grid Code, DSM regulations and their amendments issued from time to time.
- 4.6 If the station wise ex-power plant MW declaration capability is not furnished by any of the generators within the time frame fixed by SLDC, the previous day's Declared Capability (DC) furnished by the generator will be taken and

accounted for commercial mechanism.

4.7 Declaration Capability (Form A)

4.7.1 State owned Generating Stations.

4.7.1.1 All the State owned Generating stations (SGS) such as Thermal, Hydro and Gas stations shall furnish the station wise ex-power plant MW capability declaration in Form A foreseen for each time block of the next day to SLDC.

4.7.2 Intra State Private Generators

4.7.2.1 All the Intra State Private Generators (except STOA transactions) shall furnish the transaction wise (ie power supply to TANGEDCO through PPAs, tender, Third party sale, Captive wheeling, interstate sale etc.) capability declaration in MW, in Form A based on the open access approval for each time block of the next day to SLDC which shall not exceed the open access approved quantum .

Provided that for intrastate STOA transactions

- a. STOA approvals shall be given as DC by the generators.
- b. For the planned shutdown/outage of the generator, the revised open access approval shall be obtained from SLDC.

If the generator is in shutdown/ not running, the DC for the open access transactions shall be given as zero by the generator upto expected time of synchronization provided the transmission charges shall be paid by the generator for the approved STOA quantum.

4.7.3 Independent Power Projects (IPPs):

4.7.3.1 All the IPPs shall furnish the station wise ex-power plant MW capability declaration (in Form A) foreseen for each time block of the next day to SLDC.

4.8 Entitlement (Form B):

4.8.1 Entitlement for each time block for the next day will be issued to TANGEDCO (DSM wing until formation of DSO) by SLDC in Form B, based on the existing power purchase agreements, Open access agreements and declaration given by SGS, IPPs and Private generators.

4.8.2 The total open access quantum of HT consumers for each time block for the next day will be prepared at SLDC, based on the open access approvals, declaration given by Private Generators and taking into account of interstate open access transactions by the HT consumers.

4.9 Requisition by intrastate entity (Form C):

4.9.1 TANGEDCO (DSM wing until formation of DSO) shall furnish their requisition for each time block for the next day to SLDC as per IEGC and TNEGC taking into consideration the drawal schedule of HT consumers.

4.10 Despatch Schedule and Drawal Schedule (Form D):

4.10.1 Despatch Schedule to Generators:

4.10.1.1 Despatch schedule for each time block for the next day will be issued to SGS by SLDC in Form D, based on the declaration given by SGS and requisition given by TANGEDCO.

4.10.1.2 Despatch schedule for each time block for the next day will be issued to Private Generators by SLDC in Form D, based on the declaration given by the Private Generators, requisition given by TANGEDCO and open access approvals.

Provided that STOA approvals will be taken as dispatch schedule for STOA transactions.

4.11 Drawal Schedule to TANGEDCO and Open Access consumers (Form D):

4.11.1 Drawal schedule for the Buyers/ TANGEDCO/ Open Access Consumers / Deemed Distribution licensee will be prepared after incorporating the Transmission/ Distribution losses as per prevailing TNERC Tariff orders until the estimation of actual average weekly intrastate transmission losses.

4.11.2 Drawal schedule for each time block for the next day will be issued to the Distribution Licensee by SLDC in Form D, based on the declaration given by all sellers, requisitions of the Distribution Licensee and shall be notified in the website. The STOA approvals will be taken as drawal schedule for STOA transactions. Deviations will be calculated for the Distribution Licensee as a whole.

4.12 Revisions in Schedule.

4.12.1 Revisions in schedule for the sellers, SGS, Private generators, buyers, Discoms(TANGEDCO)/ Deemed Distribution Licensee during the day of the operation shall be as per the provisions of TNEGC and IEGC, TNERC Regulations/Orders and provisions of the DSM Regulations. Sellers, Generators, Buyers/Discoms/ (TANGEDCO) shall abide by the provisions of IEGC/TNEGC.

Provided that for STOA transactions

- (i) No revision is allowed in the schedule.
- (ii) For the forced outage of the generating unit/plant during the day of operation, the generator shall immediately intimate the outage of the unit along with the requisition for revision of the schedule and estimated time of restoration of the unit to SLDC. The schedule of DISCOM, sellers, buyers of power from this generating plant/unit shall be revised accordingly from 4th Time block counting the time block in which intimation is given by the generator.
- (iii) Once the generation is restored, the restoration of generating unit shall be intimated to SLDC by the generator. The original schedule shall become effective from the 4th time block counting the time block in which intimation is given by the generator.

4.12.2 The revisions in the schedule for LTOA/MTOA transactions shall be as per TNEGC/IEGC/TNERC Grid Connectivity and Intrastate Open Access Regulations 2014 and subsequent amendments if any. Revisions in the schedule for Hydro stations will be as per the provisions of IEGC and TNEGC.

4.12.3 Revision of declared capability by generator(s) and requisition by buyers/ distribution licensees for the remaining period of the day will also be permitted with advance notice. Revised schedules/declared capability in such cases shall become effective from the 6th block, counting the time block in which the request for revision has been received in SLDC to be the first one.

4.12.4 If, at any point of time, SLDC observes that there is need for revision of the schedules in the interest of better system operation, it may do so on its own and in such cases, the revised schedules shall become effective from the 4th time block,

counting the time block in which the revised schedule is issued by SLDC to be the first one.

4.12.5 In the event of any contingency, SLDC will revise the schedules on the basis of revised declared capability by the generators. The revised schedules will become effective from the 4th time block, counting the time block in which the revision is advised by the generator to be the first one. The revised declared capability will also become effective from the 4th time block.

4.12.6 Generation schedules and drawal schedules issued/revised by SLDC shall become effective from designated time block irrespective of communication success.

4.12.7 In the event of bottleneck in evacuation of power due to any constraint, outage, failure or limitation in the transmission system, associated switchyard and substations owned by STU (as certified by SLDC) necessitating reduction in generation, SLDC will revise the schedules which will become effective from the 4th time block, counting the time block in which the bottleneck in evacuation of power has taken place to be the first one. Also, during the first, second and third time blocks of such an event, the scheduled generation of the station will be deemed to have been revised to be equal to actual generation and also the scheduled drawals of the beneficiaries / distribution licensees will be deemed to have been revised to be equal to their actual drawals.

4.12.8. In case of any grid disturbance, scheduled generation of all the generating stations and scheduled drawal of all the open access customers / distribution licensees shall be deemed to have been revised to be equal to their actual generation/drawal for all the time blocks affected by the Grid Disturbance.

4.12.9 Certification of Grid Disturbance and its duration shall be done by SLDC. In case any impermissible constraints are foreseen, the SLDC shall moderate the schedules to the required extent, under intimation to the concerned users. Any changes in the scheduled quantum of power which are too fast or involve unacceptably large steps, may be converted into suitable ramps by the SLDC.

4.12.10 On completion of the operating day, by 24.00 hours, the schedule finally implemented during the day (taking into account all before-the-fact changes) in despatch schedule of generating stations and drawal schedule of the buyers/TANGEDCO shall be issued by SLDC. This schedule shall be the datum for commercial accounting.

4.12.11 The SLDC shall properly document all the above information i.e. station-wise foreseen ex-power plant capabilities advised by the generating stations, the drawal schedule indented by the buyers/TANGEDCO/distribution licensees, all schedules issued by the SLDC and all revisions / updating of the above.

4.12.12 The final schedules issued by SLDC shall be open to all the intrastate entities for any checking/verification for a period of 5 days. In case any mistake/omission is detected the SLDC shall forthwith make a complete check and rectify the same.

5.0 Metering and Meter data collection:

5.1 Interface Energy Meters shall be installed at Generator end evacuation feeders, Open access consumer end, Distribution licensee boundaries as per CEA Metering Regulations, 2006 & amendments from time to time, and TNERC Grid connectivity and Intrastate Open Access Regulations 2014 and its amendments.

5.2 Interface Energy Meters with unique serial numbers and as per standard specification, would have to be placed in accordance with CEA Metering Regulations to facilitate boundary metering, accounting and settlement for Generators, TANGEDCO, Distribution licensees and open access consumers.

5.3 Automated meter reading (AMR) system shall be used for communicating interface meter data at SLDC. Internal Clock of the interface meter shall be time synchronized with GPS with counter check from the AMR server at SLDC. If not done by the software necessary time drift correction shall be made in the meter by the concerned entity at site. If time drift could not be corrected, the meter shall be replaced.

5.4 Generators, TANGEDCO, Distribution licensees shall provide data telemetry to SLDC and shall ensure the correctness of the real-time data and undertake the corrective actions, if required.

5.5 MRT wing of Switchyard of State Owned Thermal, Hydro, Gas power stations, MRT wing of SE/EDCs for private generators, Operation wing for TANTRANSCO/TANGEDCO boundary meters shall be responsible for bringing the 15min block wise Load Survey AMR data to SLDC server in co-ordination with P&C wing .

5.6 15 min block wise Load Survey Data of the above intrastate entities shall be uploaded in AMR server at SLDC every Thursday for the previous week starting from Monday 00:00Hrs to Sunday 24:00Hrs.

5.7 If AMR Load survey data is not established or AMR data is not received , the load survey data from ABT meters may be downloaded by the concerned wing on every Monday and uploaded in web portal created by SLDC or sent through Email on or before Thursday of the week.

5.8 Validation of ABT meter data will be done at SLDC.

5.9 Check meter readings shall be considered when Main Meters are found to be Defective or stopped. Provided that, if difference exists between the readings of main and check meters, viz. main meter reading exceeds twice the percentage error applicable to relevant class, both meters shall be tested and the defective meter shall be immediately replaced and reading of other will be considered.

5.10 If during test or calibration, both the main meter and the check meter are found to have errors beyond permissible limits, the bill shall be revised for the previous 3 (Three) months or for the exact period if known and agreed upon by both the parties, by applying correction as determined by the STU or Distribution Licensee to the consumption registered by the meter with lesser error.

5.11 The open access customer shall check the healthiness of metering arrangement by superficially checking indicator lamps or by taking readings as frequently as possible. If both the main meter and the check meter fail to record energy either due to the blowing of the P.T. fuses or due to any other causes, the energy imported or exported may be arrived at based on the standby meter, if available, or by mutual agreement of the parties involved.

5.12 Meter testing and calibration shall be done periodically as per CEA Metering Regulations 2006 & its subsequent amendments there on.

5.13 Data related to the reactive energy between state entities at the interface points shall be metered and considered for reactive energy accounting as applicable.

5.14 Any new line /generating stations /ICTs forming part of Intrastate transmission system network, the concerned entity must confirm to SLDC the installation of ABT meter with DLMS facility at interface points at least 7 days before charging of the element.

5.15 All concerned entities having ABT meters with DLMS facility in their premises shall fully cooperate and extend necessary assistance for collecting the meter data for the purpose of Deviation Accounting as specified in this Procedure.

5.16 Any addition, replacement, testing of interface meters and/or change in meter location shall be done with prior intimation to TNSLDC.

5.17 Any Change/correction in CT/PT ratios to be informed immediately to TNSLDC.

6.0 Deviation Energy Accounting:

6.1 General Provisions.

6.1.1 The State Power Committee (SPC) shall prepare weekly deviation charges statement to all pool members and billing & collection of deviation charges from the pool members in accordance with the provisions of the DSM Regulations.

6.1.2 Deviations from schedule by the Sellers and Buyers shall be governed by the provisions of the Regulations.

6.1.3 The Deviation for Generating Station/Seller and for Beneficiary/Buyer shall be the difference between the actual injection/drawal and scheduled injection/drawal i.e For Generating Station/Seller:

Deviation = Actual injection (AI) – Scheduled injection (SI)

For Beneficiary/ Buyer

Deviation = Actual drawal (AD) – Scheduled drawal (SD)

Deviation charges shall be paid at the deviation rates notified from time to time which is presently Area Clearing Price linked to frequency.

6.1.4 Deviation sign with respect to pool account

The amount payable to pool account towards deviation charges, additional deviation charges etc will be mentioned with –ve sign.

The amount receivable from pool account towards deviation charges will be mentioned with +ve sign.

6.1.5 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.

6.1.6 The transmission and distribution losses shall be as per the provisions of prevailing TNERC Orders until estimation of actual average intrastate transmission losses.

6.1.7 The SR reference frequency will be taken for DSM accounting calculations.

6.1.8 The Deviation computations shall be open to all intrastate entities for checking/verifications for a period of 15 days. In case any mistake /omission is detected, the SPC shall forthwith make a complete check and rectify the same.

6.1.9 If any misdeclaration / mistake (ie DC is given by the generator, while the generating plant is under shutdown/outage) done by the generators is found by SPC while preparing the deviation energy statement, the implemented schedule of DISCOM, sellers, buyers of power from this generating plant/unit for the above period will be revised accordingly. The same will be communicated to TANGEDCO for necessary revision of monthly billing of the open access consumers.

6.2 Deviation Volume Limit:

6.2.1 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, 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.

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

Minimum of (12% of schedule, (Peak Demand of Distribution Licensee or Buyer / Σ NCPD) x State Volume Limit)

Where NCPD (Non-coincident Peak Demand) represents the sum of Peak Demand of Distribution Licensee(s) and Buyer(s).

State Volume Limit shall be linked to Volume Limit (L) applicable to the State as per CERC DSM Regulations and its amendments thereof.

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.

6.2.3 No over drawal of electricity by any Buyer shall be permissible when grid frequency is “below 49.85 Hz”.

6.2.4 No under drawal of electricity by any Buyer shall be permissible when grid frequency is “50.05 Hz and above”.

6.2.5 The under-injection or over-injection of electricity by Seller shall not exceed 12% of the scheduled injection or [100] MW, whichever is lower when grid frequency is “49.85 Hz or above and below 50.05 Hz”:

6.2.6 No under injection of electricity by a Seller shall be permissible when grid frequency is “below 49.85 Hz” .

6.2.7 No over injection of electricity by a seller shall be permissible when grid frequency is “50.05 Hz and above”.

6.2.8 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 deviation volume limit 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.

6.2.9 Any drawal of power by a generating station prior to COD of a unit for the startup activities shall be exempted from the deviation volume limit.

6.2.10 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.

6.3 Deviation Charges:

6.3.1 The charges for Deviation shall be in accordance with the provisions of the DSM Regulations 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 the DSM Regulations vide Annexure. 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 (ACP) discovered in the Day-Ahead Market (DAM) segment of Power Exchange. Tamil Nadu is coming under S2 segment area. Hence the ACP for S2 segment area as considered by SRLDC will be taken for computation of DSM price vector. 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.

6.3.2 In case 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.

6.3.3 In addition to Charges for Deviation as stipulated under the DSM Regulations, Additional Charge for Deviation shall be applicable for over-drawal/ under-injection of electricity by a buyer/Seller for each time block in excess of the volume limit specified in this regulation when average grid frequency of the time block is "49.85 Hz and above" at the rates specified in these Regulations.

6.3.4 In addition to Charges for Deviation as stipulated under the DSM 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".

6.3.5 The Charges for Deviation of generating stations whose tariff is determined by the Commission, when actual injection is higher/lower than the scheduled generation,

shall not exceed the Cap Rate [311] Paise/kWh to be determined by the Commission from time to time.

6.3.6 The Charges for the Deviation for the generating stations other than those covered above, 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.

6.3.7 The charge for deviation shall be zero at grid frequency of 50.05 Hz and above.

6.3.8 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;

6.3.9 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.

6.3.10 The under drawals by partial or full open access consumers shall be treated as inadvertent energy supplied by the generator.

6.3.11 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.

6.3.12 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.

6.4 Calculation of Deviation of Energy:

6.4.1 State Owned Generating Stations (SGS) and IPPs.

Deviation for SGS = (Actual injection - Scheduled injection)

Actual Injection = (Summation of Energy injection at ABT meters at evacuation feeders at their end.)

Scheduled Injection = Implemented schedule issued to SGS.

6.4.2 Private Generators supplying intra/inter state:

Deviation for Private Generators = (Actual injection- Scheduled injection)

Actual Injection = (Summation of Energy injection at ABT meters provided in the evacuation feeders at their end)

Scheduled Injection = Implemented schedule issued to Private generators.

6.4.3 Deemed Distribution Licensee:

Deviation for Deemed Distribution Licensee = (Actual Drawal - Scheduled Drawal)

Actual Drawal = (Summation of Energy drawal at interface ABT meters provided in the dedicated feeders at TANTRANSCO Substation end)

Scheduled Drawal = Implemented schedule issued to Deemed Distribution Licensee.

6.4.5 The statement of charges of deviation shall be prepared by Secretariat of State Power Committee(SPC) on weekly basis based on the data prepared by SLDC by the Thursday of the week for the seven day period ending on the penultimate Sunday mid night and shall be issued to all constituents of the pool by next Thursday.

7.0 State Energy Accounting:

7.1 The Secretariat of SPC shall prepare the scheduled energy and actual energy statement for the month for all the intrastate entities as per the provisions of the DSM Regulations. The following energy statement is to be prepared by TNSLDC/Secretariat of SPC.

- (i) Net energy received from various sources at TANTRANSCO network.
- (ii) Energy Despatched to TANGEDCO network.
- (iii) Net energy received from intrastate private generators.
- (iv) Net energy received from SGS.

- (v) Net Energy received from Central sector at TANTRANSCO network and supplied to TANGEDCO network.
- (vi) Intra -State transmission losses.
- (vii) Account of exchange of surplus power.
- (viii) Report of incidences of violating the provisions of these Regulations.

7.2 15 min block wise, daywise Scheduled energy for open access consumers from various sources such as Third party sale, CPP, interstate purchase from power exchange and Bilateral transactions etc have to be compiled for the month and communicated to TANGEDCO for 15 min block wise energy adjustment for the HT consumers. The billing centre of TANGEDCO shall be responsible for energy accounting , raising and settlement of bills with open access consumers.

7.3 15 min block wise, daywise Scheduled Despatch energy for the private generators for supplying power to TANGEDCO, Third party sale, CPP, interstate sale through power exchange and Bilateral transactions etc have to be compiled for the month communicated to TANGEDCO for the monthly billing.

7.4 Secretariat of SPC shall prepare and issue weekly statements to all constituents. SPC shall publish provisional monthly State Energy Account and Weekly State Deviation Pool Account Statement on its website for review by the State entities. The State entities shall provide suggestions for rectification (if any) within 15 days from the date of publishing. Upon such scrutiny and rectification (if necessary), monthly State Energy Account and weekly State Deviation Pool Account Statement as prepared by the SPC Secretariat shall be final and binding on all State entities.

7.5 DSM Pool Account operation

7.5.1 All payments on account of Charges for Deviation including Additional Charges for Deviation levied under the DSM 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.

7.5.2 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

7.5.3 An amount of surplus funds in the State Deviation Pool Account at the end of the financial year shall be utilized 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 utilization of surplus funds and implement the scheme(s) only upon approval of the Commission.

7.5.4 If Deviation charges receivable , in a week, after accounting for the receivables from /payables to the Regional Pool account, is less than the Deviations charges payable, the Deviation charges payable / receivables for the intra-state entities shall be proportionately adjusted to make the payable and receivable amounts equal.

7.5.5 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.

8.0 Commercial Settlement

8.1 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”.

8.2 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.

8.3 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 –

In case of delay in the Payment of charges for Deviations into the State Deviation Pool Account and 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.

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.

8.4 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 –

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.

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 [2019-20] is Rs.2.0 crores, the State entity shall open LC for Rs.2.2 crores in [2020-21].

If the weekly payable liability during any week in [2020-21] 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.

8.5 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.

9.0 Payment of Fixed and Variable Charges

Payment towards Fixed charges & energy charges by the buyer to Sellers shall be as per the mutually agreed terms in the respective power purchase agreements subject to the condition that the same are not inconsistent with the provisions of these Regulations.

10.0 Formation of State Power Committee(SPC)

The State power committee will be formed as per the provisions of the DSM Regulations.

11.0 Compliance Monitoring

11.1 The following events would be considered event of breach or default:

- i. Non-payment or delay in Deviation/Additional Deviation charges
- ii. Non-compliance of procedures outlined in these procedures.
- iii. Non-compliance of any directives by TNERC or TNSLDC in this matter.
- iv. In case Available Capacity is wilfully mis-declared by any seller.
- v. Non availability of Meter data for calculation of charges
- vi. In case of continued default for statutory compliance leading to declaration of wilful defaulter.

11.2 Consequences of event of default

- i. In case of default of provisions stated in this procedure without prejudice, TNSLDC shall intimate the Entity for actions to be taken.
- ii. In case the entity fails to take corrective measures within stipulated time, the TNSLDC may take decision under its Power

and approach the Commission.

12.0 Grievance Redressal

12.1 All complaints unfair practices, delays, discrimination, lack of information, supply of wrong information or any other matter related to implementation of DSM Regulations in the first instance, shall be mutually resolved by the QCA and TNSLDC only and in the event of irrecoverable differences / disputes the matter shall be referred to the Commission for clarification or adjudication.

13.0 Removal of Difficulties

13.1 This procedure aims at easy and pragmatic implementation of Deviation Settlement Mechanism (DSM) to intrastate entities. However some teething problems may still be experienced. The various implications would be known only after practical experience is gained by way of implementing these procedures. In case of any difficulty in implementation of this procedure, SLDC may approach the Commission for review or revision of the procedure.

13.2 In case any dispute between these procedures and DSM Regulations 2019, the latter shall prevail over these procedures.

13.3 Notwithstanding anything contained in this Procedure, SLDC may take appropriate decisions in the interest of System Operation and such decisions shall be taken under intimation to TNERC and these procedures shall be modified / amended, to give effect to such decisions taken by TNSLDC not later from 6 months from the date of such decision.

14.0 General

14.1 The intrastate entities shall keep the nodal agency and SLDC/STU indemnified at all times and shall undertake to indemnify, defend and keep the nodal agency, SLDC/STU harmless from any and all damages, losses, claims and actions including those relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties arising out of implementation of DSM mechanism in State.

14.2 Payment of Deviation charges, fees and charges for the concerned SLDC/STU and Distribution licensee as well as other charges for SLDC etc as applicable shall be made by the applicant as per the prevailing TNERC/CERC Regulations.

14.3 The applicant shall abide by the provisions of the Electricity Act 2003, the prevailing CERC/TNERC Regulations and Indian Electricity Grid Code, State Electricity Grid Code as amended from time to time.

15.0 TNSLDC shall undertake Pilot run of software for DSM and after go-live of DSM software there shall be trial run period of twenty four weeks for ensuring implementation of DSM as envisaged in the regulation. TNSLDC shall intimate the proposed date of go-live of DSM software prior to one month.

Annexure I

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

1) As specified in the Regulation 10 (A) of Tamilnadu Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2019, 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 stipulated in the following table:

Average frequency of time block (Hz)		Charges for Deviation
Below	Not below	(Paise/kWh)
	50.05	0.0
50.05	50.04	Slope determined by joining the price at Not Below 50.05Hz and identified price at 50.00Hz, 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 49.85Hz, and as detailed in the note below this Regulation
49.99	49.98	
49.98	49.97	
49.97	49.96	
49.96	49.95	
49.95	49.94	
49.94	49.93	
49.93	49.92	
49.92	49.91	
49.91	49.90	
49.90	49.89	
49.89	49.88	
49.88	49.87	
49.87	49.86	
49.86	49.85	
49.85		800.00

Note:-

- i. The Deviation Settlement Mechanism (DSM) rate vector will have a dynamic slope determined by joining the identified price points at 50 Hz. (daily 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 [311] paise/kWh.
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 below.
- 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.”

*****Illustration to the DSM Price Vector specified in the Tamil Nadu Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2019.**

Average frequency of time block (Hz)		Charges for Deviation
Below	Not below	(Paise/kWh)
	50.05	0.0
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.

Annexure II

Additional Deviation Charges

Table – I: Additional Deviation Charges (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 Administrative Price Mechanism.

(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. |

Form –A- Declared Capability

Block	Block Interval	Station1 (MW)	Station2 (MW)	Station 3 (MW)	Station4 (MW)	Total(MW)
1	00:00-00:15					
2	00:15-00:30					
3	00:30-00:45					
4	00:45-01:00					
5	01:00-01:15					
.	.					
.	.					
.	.					
95	23:30-23:45					
96	23:45-24:00					

Form –B- Entitlement

Block	Block Interval	Station1 (MW)	Station2 (MW)	Station3 (MW)	Station4 (MW)	Total(MW)
1	00:00-00:15									
2	00:15-00:30									
3	00:30-00:45									
4	00:45-01:00									
5	01:00-01:15									
.	.									
.	.									
.	.									
95	23:30-23:45									
96	23:45-24:00									

Form-C- Load requirement

Block	Block Interval	Discom/State Entitlement(MW)	Discom/State Load Requirement(MW)	Total
1	00:00-00:15			
2	00:15-00:30			
3	00:30-00:45			
4	00:45-01:00			
.	.			
.	.			
.	.			
95	23:30-23:45			
96	23:45-24:00			

Form-D (Generator End)- Dispatch schedule

Block	Block Interval	Station1 (MW)	Station2 (MW)	Station3 (MW)	Station4 (MW)	.	.	.	Total(MW)
1	00:00-00:15								
2	00:15-00:30								
3	00:30-00:45								
4	00:45-01:00								
.	.								
.	.								
.	.								
.	.								
95	23:30-23:45								
96	23:45-24:00								

Form-D (Distribution licence) - Drawal schedule

Block	Block Interval	Station1 for Discom1 (MW)	Station2 for Discom1 (MW)	Station3 for Discom1 (MW)	Station4 for Discom1 (MW)	.	.	.	Total(MW)
1	00:00- 00:15								
2	00:15- 00:30								
3	00:30- 00:45								
4	00:45- 01:00								
.	.								
.	.								
.	.								
95	23:30- 23:45								
96	23:45- 24:00								

OPERATING PROCEDURES AND BUSINESS RULES FOR CONSTITUTION OF STATE POWER COMMITTEE 2020

In exercise of power conferred by Regulation 15(1) of Tamil Nadu Electricity Regulatory Commission. Deviation Settlement Mechanism and Related matters Regulations 2019, the TNSLDC hereby notifies the following operating procedures and business rules. These operating procedures and business rules shall be called operating procedures and business rules for SPC 2020.

Tamil Nadu State Power Committee Operating Procedures and Conduct of Business Rules 2020

CHAPTER 1

General

1. Short Title and commencement:

1.1 Tamil Nadu State Power Committee (TNPSC) shall be established under clause 15.1 of Tamil Nadu State Electricity Regulatory Commission's Deviation Settlement Mechanism Regulations 2019, with representatives from SLDC, TANGEDCO, TANTRANSCO and private generators having more than 100 MW installed capacity. Organization structure of TNSPC is in line with organizational structure of SRPC.

1.2 The State Power Committee which is to be established under the provision of clause 15.1 of Tamil Nadu State Electricity Regulatory Commission's Deviation Settlement Mechanism Regulations 2019 herein after referred to as TNSPC shall have the following as its members.

Members representing,

1. State Load Despatch Centre (SLDC)
2. State Transmission Utility (STU-TANTRANSCO)
3. Distribution Utility (TANGEDCO)
4. State Owned Generating Stations (TANGEDCO)

5. Independent Power Projects (IPPs)
6. Captive Generating Plants (CGP)
7. Wind Power Producers
8. Solar Power Producers
9. Cogen power plants, Bio Mass Power Plants
10. Traders
11. Qualified Co-coordinating Agencies (QCAs)
12. Deemed Distribution Licensees.

1.3 Wherever a member is represented by rotation, the nomination would be for a period of one year. The representative from respective organizations should be either the head of the organization or at least a person not below the rank of a Director on the Board of the Company/Corporate entity except for Central Public Sector undertakings (CPSUs) where representative could also be at the level of Executive Director.

1.4 The TNPSC shall discharge its functions as per clause 15.1 of TNERC Deviation Settlement Mechanism Regulations 2019 and shall further perform the key activities as set out in these procedures and rules.

2.0 Key activities of Tamil Nadu State Power Committee(TNSPC)

2.1 Issuance of Deviation Settlement Accounts and Reactive Energy Accounts, review of DSM accounting and billing, issuance of State Energy Accounts (EA), and conducting of Committee Meetings on quarterly basis, preparations of report and Annual report, Resolution of commercial issues pertaining to the State, representing TNSPC secretariat in hearings before the State / Central Electricity Regulatory Commissions.

2.2 These operating procedures and rules shall come into force from the date of its notification of the official gazette and shall remain in force unless otherwise modified.

3. Definitions:

3.1 In these Regulations, unless the context otherwise requires,

(a) “Act” means the Electricity Act, 2003 (36 of 2003), as amended from time to time;

(b) “Agenda” means the list of business proposed to be transacted at a meeting of the committee.

(c) “Committee” means the Tamil Nadu State Power Committee constituted as per clause 15 of Tamil Nadu Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) regulations, 2019,

(d) “Commission” means the Tamil Nadu Electricity Regulatory Commission constituted under sub-section(1) of Section 82 of the Act,2003;

(e) “Grid Code” means the State Grid Code specified by the Commission under Section 86(1) (h) of the Act;

(f) “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;

(g) “State Entity” means such person who is in the SLDC control area and whose metering and energy accounting is done at the State level;

(h) “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;

(i) “Meeting” means a meeting of the committee convened by the head of the Secretariat or any member authorized to convene a meeting in the absence of the head of Secretariat.

(j) “Member” means the member of the TNSPC

(k) Rules” or the “operating procedures” mean State Power Committee operating procedure and Conduct Business Rules, 2019

3.2 The 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 there under.

4.0 Functions of TNSPC

4.1 As per clause 15.2 of Tamilnadu State Electricity Regulatory Commission’s Deviation Settlement Mechanism Regulations 2019, the State Power Committee shall:

- i. Co-ordinate and facilitate the intra-state energy exchange for ensuring optimal utilization 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.

5.0 Secretariat of TNSPC

5.1 Secretariat shall perform the following duties

- (a) Keep custody of records of proceedings of the committee
- (b) Prepare Agenda for the committee meetings
- (c) Prepare minutes of the committee meetings
- (d) Take follow-up action on the decision taken in the committee meetings

(e) Maintain archive of data and information pertaining to operating parameters, protection system and communication system of the State power system to be collected from constituent members or other officers, companies, firms or any other party as may be directed by committee, such information as may be considered useful for the efficient discharge of functions of the committee under the resolution and place the information before the committee.

5.2 The duties and responsibilities envisaged under regulations made by Tamil Nadu Electricity Regulatory Commission (TNERC) and Tamil Nadu State Power Committee(TNSPC) resolution from time to time, shall be carried out by the Member Secretary/TNSPC. The Member Secretary shall be an officer not below the rank of Superintending Engineer.

6.0 Furnishing of data/information to Secretariat of TNSPC

6.1 SLDC and constituents of the State shall make available all data/information required by the Secretariat to discharge its functions or to carry out any other responsibility/function assigned to it by the Commission/Committee. It shall also be the responsibility of the constituents to ensure that any data though not specifically asked for by the Secretariat, but which may be required for the specific responsibility/function assigned to the Secretariat is also made available to the Secretariat.

7.0 Chairperson of TNSPC

7.1 The members of the Committee shall elect the Chairman from SLDC/TANTRANSCO/TANGEDCO/TNEB Ltd for a period of one year after which a new Chairman will be elected for next year. The Chairperson shall be an officer not below the rank of Chief Engineer.

8.0 Website of TNSPC

8.1 The TNSPC shall have its own website which shall be maintained by TNSPC Secretariat.

CHAPTER - II

PROCEDURE FOR CONDUCTING TNSPC MEETINGS

9.0 Place and date of TNSPC Meeting

9.1 The Place and date of the meeting shall from time to time be decided by Member Secretary, TNSPC in consultation with Chairperson of TNSPC. Such meeting will generally be held within the state of Tamil Nadu.

9.2 Meeting will be hosted by the member organizations as per the roster prepared by Member Secretary/ TNSPC in consultation with the members of the TNSPC.

10.0 Notice for the Committee Meetings and Agenda

10.1 Notice for the committee meeting shall be issued by Member Secretary/TNSPC at least 2/3 weeks in advance in consultation with Chairperson of TNSPC. In case of emergency meetings required to be conducted to carry out urgent business, notice of one week is to be given.

10.2 The agenda points for the meeting shall be sent to the Member Secretary by the members at least 20 days in advance of the meeting. The Member Secretary/ TNSPC shall finalize the agenda and circulate the same to all its members at least 10 days in advance and also post it on the website.

10.3 Member Secretary/ TNSPC may convene a meeting at short notice on any urgent matter in consultation with Chairperson of the committee. Meetings if necessary may be conducted through video conferencing also.

11.0 Effect of Non-receipt of Notice of Meeting by a Member

The non-receipt of notice by any member of TNSPC shall not invalidate the proceeding of the meeting or any decision taken in the meeting.

12.0 Cancellation/Re-Scheduling of Meeting

If a meeting is required to be cancelled or rescheduled, the same shall be intimated to the members at the earliest by telephone/e-mail and also posted in TNSPC website immediately.

13.0 Periodicity of Meetings

The committee members shall meet at least once in three months. However, the committee may meet to discuss any issue as and when required in consultation with Chairperson, TNSPC

14.0 Quorum of TNSPC Meeting

14.1 The quorum of the meeting shall be 50% of its members for routine business and a quorum of 75% for amendments to State Power Committee (Conduct of Business) Rules, 2019.

14.2 All decisions in the TNSPC shall be taken by consensus.

14.3 The decision of the TNSPC arrived at for operation of the state grid and scheduling and dispatch of electricity shall be followed by SLDC subject to the directions of regulations of the Central/State Commission.

14.4 Only Members of TNSPC and TNSPC Secretariat shall participate in the committee meetings. The invitees by the committee also may attend the meeting.

15.0 Presiding Authority

15.1 The Chairperson of TNSPC shall preside over the meeting of TNSPC and conduct business. The Member Secretary, TNSPC shall assist the Chairperson of TNSPC in conducting the meeting. If the Chairperson is unable to be present at the meeting for

any reason, other members present in the meeting shall nominate a person among themselves to preside over the meeting.

15.2 In the absence of Member Secretary/ TNSPC such of the other officer as may be designated shall function as Member Secretary to assist Chairperson of TNSPC.

16.0 Recording of the Minutes.

16.1 The minutes of the meeting shall be finalized and circulated to all its members by the Member Secretary/ TNSPC within 15 working days from the date of the committee meeting. The TNSPC shall extend all facilities for audio recording of the proceedings of the meeting.

16.2 The discussions during the meeting shall be audio recorded and the record shall be kept at the secretariat of TNSPC till the confirmation of the minutes. The member organization hosting the meeting shall extend all facilities for audio recording of the proceedings of the meeting.

17.0 Confirmation of the Minutes

17.1 Minutes of the TNSPC meeting shall be placed in the next meeting for confirmation. However, in case of urgency the minutes may be confirmed by circulation

CHAPTER –III

18.0 Sub Committees of TNSPC

18.1 In future the functions of TNSPC will be extended by establishing the sub committees as follows.

- a. Technical Co-Ordination Sub-Committee (TCC)
- b. Operation Co-Ordination Sub-Committee (OCC)
- c. Commercial Sub-Committee (CC)

- d. Protection Sub-Committee (PC)
- e. System Study Sub-Committee

CHAPTER –IV

19.0 Reports by TNSPC

The following reports shall be prepared and furnished by TNSPC secretariat.

Sl.No	Name of the report	Periodicity
1	Monthly Progress Report-State Grid Operational Data	Monthly
2	Annual Report of TNSPC	Annual

CHAPTER-V

MISCELLANEOUS

20.0 Savings of inherent power of the TNSPC

20.1 Nothing in these Rules shall bar the TNSPC from adopting in conformity with the Act a procedure that is at variance with provisions of these Rules/Procedures, if the TNSPC in view of the special circumstances of a matter or class of matters deem it necessary or expedient to deal with such a matter or class of matters.

20.2 Nothing in these Rules shall expressly or by implication, bar the TNSPC to deal with any matter or exercise any power under the Act for which no Rules/Procedures have been framed and TNSPC may deal with such matters and functions in a manner it thinks fit.
