TAMIL NADU ELECTRICITY REGULATORY COMMISSION

Tamil Nadu Electricity Regulatory Commission (Intra State Availability Based Tariff) Regulations 2016

Draft Notification No.TNERC/ABT/ dt. .1.2016

(Comments/suggestions are invited on or before 13.2.2016)

In exercise of the powers conferred under section 181 of the Electricity Act,2003 (36 of 2003), and all other powers enabling it in this behalf, and after making previous publication, the Tamil Nadu Electricity Regulatory Commission hereby makes the following regulations, namely:

1. Short title and commencement

(1) These regulations may be called the Tamil Nadu Electricity Regulatory Commission (Intra State Availability Based Tariff) Regulations, 2016.

(2) These regulations shall come into force on the date of publication in the Tamil Nadu Government Gazette.

2. Definitions and Interpretation:

In these regulations, unless the context otherwise requires,

(a) 'Act' means the Electricity Act,2003(36 of 2003),

(b) 'Actual drawal' in a time block means electricity drawn by a buyer, as measured by interface meters,

(c) 'Actual injection/generation' in a time block means electricity generated or supplied by the seller, as the case may be, measured by the interface meters,

(d) 'Availability Based Tariff (ABT)' is a three part tariff comprising of capacity charges, variable charges and deviation charges, the capacity charge being linked to availability, variable charge to scheduled energy and deviation charge at the rates applicable to the deviations from the schedule,

(e) 'Beneficiary' is a person purchasing electricity generated from a generating station whose tariff is determined under the regulations of the Commission,

(f) 'Buyer' means a person, including beneficiary, purchasing electricity through a transaction scheduled in accordance with the open access regulations,

(g) 'CERC' means the Central Electricity Regulatory Commission referred to in sub section (1) of section 76 of the Act,

(h) 'Commission' means the Tamil Nadu Electricity Regulatory Commission referred to in sub-section(1) of section 82 of this Act,

(i) 'Central Transmission Utility' or 'CTU' means any Government company, which the Central Government may notify under subsection (1) of section 38 of the Act.

(j) 'Deviation' in a time block for a seller means its total actual injection minus its total scheduled generation and for a buyer means its total actual drawal minus its total scheduled drawal,

(k) 'Gaming' in relation to these regulations, shall mean an intentional mis-declaration of declared capacity by any seller in order to make an undue commercial gain through charge of deviations,

(l) ‘Grid Code’ means the Grid Code specified by the Commission under clause (h) of sub- section(1) of section 86 of the Act,

(m) ‘IEGC’ means the Indian Electricity Grid Code specified by CERC under clause (h) of sub-section (1) of section 79 of the Act,

(n) ‘Interface meters’ means the interface meters as defined by the Authority under the Central Electricity Authority (Installation and Operation of Meters) Regulations 2006, as amended from time to time.

(o) ‘Open Access regulations’ means the Grid connectivity and Intra State Open Access Regulations, 2014 specified by the Commission and as amended from time to time,

(p) ‘RLDC’ is the Regional Load Despatch Centre established under sub-section (1) of section 27 of the Act.

(q) ‘Scheduled generation’ at any time or for a time block or any period means schedule of generation in MW or MWh ex-bus given by the SLDC,

(r) ‘Scheduled drawal’ at any time or for a time block or any period means schedule of despatch in MW or MWh ex-bus given by the SLDC,

(s) ‘Seller’ means a person, including a generating station, supplying electricity through a transaction scheduled in accordance with the Open Access regulations,

(t) ‘State Load Despatch Centre’ or ‘SLDC’ means the Load Despatch Centre described in the Grid Code.

(u) 'State Imbalance Pool Account' or 'State Deviation Charge Account' means the account maintained by SLDC for billing and payments regarding deviation charges,

(v) 'State Reactive Energy Account' means the account maintained by SLDC for billing and payments of reactive energy charges,

(w) 'State Transmission Utility' or 'STU' means the erstwhile Tamil Nadu Electricity Board or the Government company specified as such by the State Government under sub-section (1) of section 39,

(x) 'User' means the generating station, distribution licensee, trading licensee and open access customers within the State using the Intra State Transmission/Distribution network,

(y) 'Time block' means a time block of 15 minutes, for which specified electrical parameters and quantities are recorded by special energy meter, with first time block starting at 00.00 hrs.

Save as aforesaid and unless the context or the subject matter otherwise requires, words and expressions used in these regulations and not defined, but defined in the Act, or the Grid code or any other regulations of this Commission shall have the meaning assigned to them respectively in the Act or the Grid code or any other regulation, as the case may be.

3. Applicability of Intra State ABT:

3.1 Intra State ABT shall be applicable to users as below:

a. All generating stations except those covered by Inter State ABT, Nuclear Power stations, Hydro Power stations including pumped storage hydro electric plants and Merchant Power plants.
b. All Distribution licensees/Trading licensees in the State.

c. All intra State Open access customers.

Provided that the applicability of intra State ABT shall remain suspended during the period of grid disturbance, islanded mode of grid operation as intimated by SLDC as per provisions of the Tamil Nadu Electricity Grid Code.

3.2 The open access customers could be directly connected to either the Central Transmission Utility system or the State Transmission Utility system or the Distribution licensee. In case they are connected to the CTU system, the RLDC shall be responsible for scheduling and accounting and in other cases the SLDC shall be responsible for scheduling and accounting.

4. Components of ABT

4.1 Capacity charge/fixed charge :

Capacity charges/fixed charges of the generators shall be payable by the buyers based on the capacity allotted to them, irrespective of the power they draw or are scheduled to draw. The capacity charges shall be computed and recovered as per the Commission's Regulations/Orders in force

4.2 Energy charge/variable charge:

Energy charges/variable charges shall be payable by the buyers on the scheduled energy irrespective of actual drawal, as per the variable energy charge of the generating station from which power is drawn, that is worked out as per the Commission's Regulations/Orders in force.

4.3 Deviation charge :

4.3.1 Variation between actual generation or actual drawal and scheduled generation or scheduled drawal shall be accounted through the deviation charges stipulated in the CERC(Deviation Settlement Mechanism and related

matters) Regulations, 2014(hereinafter referred to as DSM regulations) and as amended from time to time.

4.3.2 The deviation charge for a generating station shall be equal to its actual generation minus its scheduled generation and that for a beneficiary shall be equal to its total actual drawal minus its total scheduled drawal. The charges for the deviations for all the time blocks shall be worked out on the average frequency of a time block at the rates specified in the DSM Regulations.

4.3.3 The additional charges for deviation for exceeding the limits of volume/at grid frequencies '50.10Hz and above' and 'below 49.70 Hz' as specified in the DSM regulations of CERC are also applicable for over drawal/under injection and under drawal/over injection of electricity for each time block.

Provided the limit of volume shall be 10% of scheduled injection/scheduled drawal.

4.3.4 In the case of wind and solar generating stations, deviation charges shall be governed by charges specified through separate regulations/orders of the Commission.

5. Reactive power compensation

5.1 Reactive power compensation should ideally be provided locally, by generating reactive power as close to the reactive power consumption as possible, by the beneficiary. The beneficiaries are to provide local VAr compensation/generation such that they do not draw VArs from the grid, particularly under low voltage condition.

5.2 The VAr exchanges by the beneficiaries with State Transmission system shall be priced as provided in IEGC and its amendments.

5.3 The reactive power compensation charge shall be as per the provision in the State Grid Code/orders of the Commission in force. The charge shall be payable between the beneficiary and the Pool Account and between two beneficiaries for VAr interchanges. For any reactive energy charges, payable to regional pool account, the same shall be pooled with the state reactive energy account and shared by all beneficiaries.

5.4 Notwithstanding the above, the SLDC may direct a beneficiary to curtail its VAr drawal/injection in case the security of the grid or safety of any equipment is endangered.

5.5 In general, the beneficiaries, shall endeavor to minimize the VAr drawal at an interchange point when the voltage at that point is below 95% of rated, and shall not return VAr when the voltage is above 105%. ICT taps at the respective drawal points may be changed to control the VAr interchange upon request by a beneficiary to the STU/SLDC but only at reasonable intervals.

5.6 Switching in/out of all bus and line Reactors throughout the grid shall be carried out as per instructions of SLDC. Tap changing on all transformers in STU shall also be done as per SLDCs instructions only.

5.7 The generating stations shall generate/absorb reactive power as per instructions of SLDC, within capability limits of the respective generating units, that is without sacrificing on the active generation required at that time. The generating units for which full annual fixed costs are being borne by the beneficiaries through the capacity charge under ABT shall not get any payment for VAr Generation/ absorption.

6. Scheduling:

All users shall schedule and despatch as per the instructions of SLDC. The methodology of scheduling shall be in accordance to the provisions in the Tamil Nadu Electricity Grid Code/IEGC and its amendments. In the case of wind and solar generators, scheduling shall be as per the regulations framed on forecasting, scheduling and deviation settlement of wind and solar generating stations by the Commission.

7. Gaming:

7.1 The Commission, either suo-motu or on a petition made by SLDC, or any affected party, may initiate proceedings against any generating company or seller on charges of gaming and if required, may order an inquiry in such manner as decided by the Commission. When the charge of gaming is established in the above inquiry, the Commission may, without prejudice to any other action under the Act or regulations there under, disallow any charges for deviation received by such generating company or the seller during the period of such gaming.

8. Metering and meter reading:

8.1 Metering and meter reading shall be as provided in the Commission's Grid Connectivity and Intra State Open Access Regulations, 2014. ABT compliant interface meters with AMR facility shall be provided at the periphery/terminals of all intra-State entities i.e all generating stations, all open access users, and all entities proposed to be covered by deviation settlement mechanism.

9. Energy Accounting:

9.1 A State Energy Account, for the billing and settlement of 'Capacity Charge', 'Energy Charge', 'Deviation Charge' and 'Reactive energy Charge' shall be prepared by the SLDC.

9.2 The energy accounting related to availability for capacity charges and schedules for energy charges shall be arrived at by SLDC and bill shall be raised and settled mutually by generating company/seller and the beneficiary/buyer according to the Power Purchase Agreement (PPA) between the two. Billing and settlement of 'Deviation Charge' and 'Reactive Energy Charge' shall be carried out by SLDC maintaining a 'State Imbalance Pool Account/State Deviation Pool Account' and a 'State Reactive Energy Account'.

9.3 The SLDC shall be responsible for computation of actual net MWh injection of each generating station and actual net drawal of each beneficiary/buyer, 15 minute-wise, based on the meter readings and for preparation of the State Energy Accounts.

9.4 All computations carried out by SLDC shall be open to all constituents for checking/verifications for a period of 15 days. If any mistake/omission is detected, the SLDC shall forthwith make a complete check and rectify the same.

9.5 Such Accounts shall be examined and verified by the State Power Committee (SPC) comprising of SLDC, STU, Distribution Licensee and Generators as constituents. A proposal to establish the SPC may be sent by the STU for the approval of the Commission.

9.6 Provided that in the case of Generators, the SPC shall have only one representative from each class of Generators mentioned below :

i. TANGEDCO,
ii. Independent Power Producers (IPPs),
iii. Generating Companies under joint venture,
iv. Captive Generating Plants.

9.7 SLDC will forward the necessary data / schedules to regional level in line with Regulations formulated by Central Electricity Regulatory Commission.

10. Commercial settlement:

10.1 The beneficiary/buyer shall pay to the respective generating company, Capacity charges corresponding to the plant availability and Energy charges for the scheduled despatch. However, calculation of capacity charges and energy charges may be made according to their bilateral contract. (i.e. PPA). The bills for these charges shall be issued by the respective generating companies to each beneficiary on monthly basis.

10.2 In case of a deviation from the despatch schedule, the concerned Generating Station shall be additionally paid for excess generation through the deviation settlement mechanism notified by CERC. In case of actual generation being below the given despatch schedule, the concerned Generating Station shall pay back through the deviation settlement mechanism for the shortfall in generation.

10.3 In the case of distribution licensee, the licensee shall be required to pay through the deviation settlement mechanism for the excess energy drawn. In case of under drawal, the licensee shall get paid through the deviation settlement mechanism, for the energy not drawn.

10.4 In the case of open access customers who have a contracted demand with the distribution licensee, the excess drawal above the schedule, shall be deemed to be supplied by the distribution licensee and shall be charged as per the terms and conditions of supply agreement with the licensee. In the case of open access customers who do not have a contracted demand with the distribution licensee, excess drawls above the schedule shall be deemed to be supplied by the distribution licensee and shall be charged at temporary supply tariff rates.

10.5 The adjustment of energy losses in the transmission/distribution system shall be as per the provisions in the regulations/orders in force.

10.6 Monthly Energy Accounts and weekly statement of Deviation charges shall be prepared by the SLDC. The weekly statement of Deviation charges shall be issued to all constituents by next Tuesday for the seven-day period ending on the penultimate Sunday mid-night. Payment of Deviation charges shall have a high priority and the concerned constituents shall pay the indicated amounts within 10 (ten) days from issue of statement into the state imbalance pool account operated by the SLDC. The agencies who have to receive the money on account of Deviation charges would then be paid out from the state imbalance pool account, within three (3) working days.

10.7 The SLDC shall also issue the weekly statement for VAr charges, to all constituents who have a net drawal / injection of reactive energy under low/high voltage conditions. These payments shall also have a high priority and the concerned constituents shall pay the indicated amounts into the state reactive energy account operated by the SLDC within 10 (ten) days of issue of statement. The constituents who have to receive the money on account of VAr charges would then be paid out from the state reactive energy account, within three (3) working days.

10.8 The SLDC/STU may insist on appropriate payment security mechanism by way of Bank Guarantee or Bank Draft for an amount equivalent to 0.1% of scheduled energy for one month. The same shall be reviewed after a period of one year and the highest of the deviation charges paid in any month of the year shall be the amount towards payment security.

10.9 If payments against the above deviations and VAr charges are delayed by more than two days, i.e., beyond twelve (12) days from statement issue, the defaulting constituent shall have to pay simple interest @ 0.06% for each day of delay. The interest so collected shall be paid to the constituents who had to receive the amount, payment of which got delayed. Persistent payment defaults,

if any, shall be reported by the SLDC to the Commission, for initiating remedial action.

10.10 If total payment receivable in the State imbalance pool account, after accounting for the receivables from/payables to the Regional pool account, is more or less than the Deviation charges payable, the Deviation charges payable/receivable for the intra-State entities will be proportionately adjusted to make the payable and receivable amounts equal.

10.11 The money remaining in the state reactive energy account after pay-out of all VAr charges up to 31st March of every year shall be utilized for training of the SLDC operators, and other similar purposes which would help in improving/streamlining the operation of the grid, as decided by the SPC from time to time.

10.12 In case the voltage profile of the grid improves to an extent that the total payout from the VAr charges account for a week exceeds the total amount being paid-in for that week, and if the reactive account has no balance to meet the deficit, the pay-outs shall be proportionately reduced according to the total money available in the above account.

10.13 The SLDC shall prepare the complete statement of the state imbalance pool account and the state reactive energy account, on a quarterly basis and circulate the same to all the pool members for verification.

10.14 All 15-minute energy figures (net scheduled, actually metered and DSM) shall be rounded off to the nearest 0.01 MWh.

11. Development of capability of SLDC for monitoring, controlling, accounting:

11.1 The SLDC shall endeavour to develop/procure necessary software, hardware for real time operations, communication of data in order to monitor

generation, drawal for efficient operation of the system, and for billing and accounting purposes. The SLDC shall take steps to employ adequate human resources and impart training to the staff. The SLDC shall also establish links with the sub-load despatch centres on real time basis.

13. Powers to Remove Difficulties:

If any difficulty arises in giving effect to any of the provisions of these Regulations, the Commission may by general or special Order, direct the State Transmission Utility, State Load Despatch Centre, intra-State licensees and the open access customer, to take such action, as may appear to the Commission to be necessary or expedient for the purpose of removing difficulties.

14 . Power to amend. –

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

(By order of the Tamil Nadu Electricity Regulatory Commission)

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(S.Chinnarajalu)
Secretary

TAMIL NADU ELECTRICITY REGULATORY COMMISSION

Tamil Nadu Electricity Regulatory Commission (Intra State Availability Based Tariff) Regulations 2016

Explanatory Statement

1. CERC issued necessary orders for implementation of Inter state Availability Based Tariff(ABT) in India in the year 1999 and ABT has been implemented region by region during 2002 and 2003. The implementation of inter-state ABT has brought about substantial improvement in the grid operation resulting in grid discipline and optimal utilization of the generation capacities. The average grid frequency was marginally increased and it was hovering around the standard frequency of 50 Hz.

2. Considering the benefits derived from ABT, the National Electricity Policy issued under the provisions of the Electricity Act, 2003, envisages introduction of Intra-State ABT vide Section 5.7.1, which reads as follows:

"The ABT regime introduced by CERC at the national level has had a positive impact. It has also enabled a credible settlement mechanism for intra-day power transfers from licenses with surpluses to licenses experiencing deficits. SERCs are advised to introduce the ABT regime at the State level within one year".

3. The related provisions of Tariff Policy issued by the Government of India are reproduced below:

Section 6.2: *"A two-part tariff structure should be adopted for all long term contracts to facilitate Merit Order despatch. According to National Electricity Policy, the Availability Based Tariff (ABT) is to be introduced at State level by April 2006. This framework would be extended to generating stations (including grid connected captive plants of capacities as determined by the SERC). The Appropriate Commission may also introduce differential rates of fixed charges for peak and off peak hours for better management of load"*

Section 7.1(8): *"Metering compatible with the requirements of the proposed transmission tariff framework should be established on priority basis. The metering should be compatible with ABT requirements, which would also facilitate implementation of Time of Day (ToD) tariffs".*

4. As per the report of Forum of Indian Regulators, following improvements in operation of regional grids on introduction of inter state ABT have been brought about:

(i) Grid frequency has dramatically improved.

(ii) A higher consumer demand is being met, due to built-in incentives to maximise generation in peak-load hours.

(iii) Generating stations are being operated according to real merit order, on region-wide basis, through decentralized scheduling.

(iv) Hydro-electric generation is being harnessed more optimally than done previously.

(v) States' share in Central generating stations have acquired a new meaning and grid discipline is encouraged.

(vi) Open access, wheeling of captive generation and power trading have been enabled by placing in position the mechanism (UI) for handling deviations/ mismatches.

(vii) States meet their occasional excess demand by over-drawing from the regional grid and paying applicable UI charges to the under-drawing States.

5. In the existing interstate ABT, though various entities are connected to the Tamil Nadu grid, the State as a single unit is considered to be connected to the southern grid and receives or pays UI charges in case of deviations from schedule. The increase in users of the State transmission network necessitates efficient energy accounting and balancing mechanisms. Hence, interstate ABT principles have to be replicated at the intrastate level.

6. The narrowing down of frequency bandwidth by CERC to 49.9 to 50.05 Hz and the issue of Deviation Settlement Mechanism regulations and its subsequent amendments with impetus on forecasting and scheduling of wind and solar generation, necessitates implementation of ABT in the State to enhance grid discipline. The Commission believes that implementation of ABT in the State will pave way for high quality reliable power, maximize optimum utilization of generation capacities, enable systematic scheduling, economic load despatch and ensure higher availability of power.

The draft Intra State ABT regulations proposed intend to achieve the stated objectives.

(By order of the Tamil Nadu Electricity Regulatory Commission)

-sd/-
(S.Chinnarajalu)
Secretary