



**BEFORE THE TAMIL NADU ELECTRICITY REGULATORY COMMISSION
CHENNAI**

Amending Order No. 4 – 3 dated 10.06.2009

In the matter of : Power purchase and allied issues in respect of fossil fuel based Group Captive Generating Plants and fossil fuel based Cogeneration plants.

AMENDMENTS

In order No.4 dt. 15.05.2006,

1. In section 6 relating to requirement for captive generating plants, the “note” at the end shall with effect from 15-05-2006 be deleted.

2. In section 10 relating to Issue No.2 (Purchase price) under the heading “Commission’s views/decisions” for the first paragraph commencing with the expression “There is justifiable logic” and ending with the expression “CERC from time to time”, the following paragraphs shall be substituted, namely:-

“There is justifiable logic and prudence for not fixing the purchase rate on case by case basis in respect of CGP/Cogeneration plants in Tamil Nadu. Keeping in mind, both the cost of generation of the CGPs/Cogeneration plants and the commercial viability of the Distribution Licensee, the Commission have prescribed the purchase rate linking to the prevailing UI rate of CERC, subject to a band of a minimum floor rate of Rs 2.10 and a maximum ceiling rate of Rs 4.08 per kWh. The floor rate and the upper limit have been decided based on the prevailing grid frequency in the southern grid, generation cost of fossil fuel based CGPs / Cogeneration power plants in Tamil Nadu and Central Electricity Regulatory Commission’s (CERC) UI cap for all generating stations using coal or lignite or gas supplied under Administered Price Mechanism (APM) as the fuel. Hence, the Commission feels that the floor rate of Rs 2.10 and the maximum ceiling rate of Rs 4.08 linked to the CERC’s UI rate proposed in this order will

help both the CGP/Cogeneration plants and Distribution licensee in the long run. However, the Commission would be monitoring this commercial mechanism and revisit the rate after implementing Intra-State ABT in Tamil Nadu. The charges worked out for the frequency range is subject to change as and when CERC revises the same.”

3. In section 12, -

(i) for sub-section (1), the following sub-section shall be substituted, namely:

“(1) (i) To decide on the mechanism of purchase of power, the Commission is guided by the following provisions given in section 6.3 of Tariff Policy.

(a) Firm supplies may be bought from captive plants by distribution licensees using the guidelines issued by the Central Government under section 63 of the Act.

(b) Alternatively, a frequency based real time mechanism can be used and the captive generators can be allowed to inject into the grid under the ABT mechanism.

(ii) Section 63 of the Act states that notwithstanding anything contained in section 62, the Appropriate Commission shall adopt the tariff if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government.

(iii) Considering the number of CGPs/Cogeneration plants in the State and its large variations in size, capacity and use of fuel, it is difficult for both the CGP's/ Cogeneration plants and the Distribution licensee to adopt the competitive bidding route to decide on the tariff.

(iv) Considering the incongruent nature of the different CGP/Cogeneration plants,

the Commission examined various options to arrive at an appropriate mechanism by which the distribution licensee can procure the power from CGPs/ Cogeneration plants.

(v) The introduction of inter state ABT mechanism leads to ultimate optimization of generation on a region-wise basis wherein the marginal generation cost of every State would equal the UI rate. Hence, the Commission decides to adopt the frequency based real time tariff mechanism provided as the alternative method in the Tariff Policy to procure power from CGP/ Cogeneration plants.

(vi) While protecting the commercial interests of the Distribution Licensee, the CGP / Cogeneration plants holder also should be fairly compensated for the power sold even during the period when grid frequency is close to 50 Hz so as to enable them to supply their surplus power to the Distribution Licensee continuously. Similarly, Distribution Licensee shall also get the power from the CGP at a reasonable rate when the frequency goes below 49.5 Hz. Therefore, the Commission decided to fix a floor rate and a ceiling rate linked to the CERC's UI rate in the interest of both the CGPs / Cogeneration plants and the Distribution Licensees.

(vii) Accordingly, the rate of purchase of firm as well as infirm CGP/ Cogeneration power shall be based on the UI rate under the principles of Availability Based Tariff (ABT). As of now, the TNEB, the only Distribution Licensee, transacts in power under inter State ABT mechanism based on the UI rate decided by the CERC. **Hence the Commission have decided to adopt the UI charges approved and amended by CERC time to time.** As and when the Commission introduces intrastate ABT mechanism in the State, the intrastate UI charges as decided by the Commission could be considered in place of inter state UI rates.

(viii) The UI charges adopted by the CERC with effect from 01-04-2009 are as follows.

Charges for all UI transactions shall be based on average frequency of the time block and the following rates shall apply:

Average frequency of time block (Hz)		UI Rate
Below	Not below	(Paise per kWh)
---	50.30	0.0
50.30	50.28	12.0
50.28	50.26	24.0
---	---	---
---	---	---
50.04	50.02	168.0
50.02	50.00	180.0
50.00	49.98	192.0
---	---	---
---	---	---
49.52	49.50	480.0
49.50	49.48	497.0
49.48	49.46	514.0
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---	---	---
49.24	49.22	718
49.22	49.20	735

(Each 0.02 Hz step is equivalent to 12.0 paise/kWh in the 50.3-49.5 Hz frequency range, and to 17.0 paise/kWh in the 49.5-49.2 Hz frequency range)

Provided that Unscheduled Interchange rate shall be capped at 408 paise per kWh for all generating stations using coal or lignite or gas supplied under Administered Price Mechanism (APM) as the fuel, in case when actual generation is higher or lower than the scheduled generation in the frequency range between 50.3 Hz and upto 49.2 Hz.

(ix) The rate of purchase of firm CGP/ Cogeneration power shall be linked to the prevailing grid frequency and subject to a band of a minimum (floor) and maximum (ceiling) rate of CERC's UI charges. To decide on the bandwidth, taking into account the cost of CGP / Cogeneration in the state and the prevailing grid frequency, the Commission considered a minimum rate of Rs.2.10 per unit and a maximum rate of Rs.4.08 per unit linked to the CERC's UI rate. Since the Distribution Licensee shall purchase the entire surplus power offered by the

CGPs/Cogeneration plants, the question of actual generation exceeding the scheduled generation as provided in the CERC's notification dated 30.03.2009 does not arise. Hence, the floor rate of Rs.2.10 per kWh and the ceiling rate of Rs. 4.08 per kWh is applicable for the entire power supplied to the Distribution Licensee by the CGPs/Cogeneration plants

(x) In view of the provisions of Section 86 (1)(e) of EA 2003 mandating promotion of cogeneration, the Commission proposes that generation plants adopting the principles of co-generation based on fossil fuel, shall be entitled to a rate premium of 10% over the rate of CGPs.

(xi) The applicable tariff for fossil fuel based Group Captive Generating Plants and fossil fuel based Cogeneration Plants in the State is tabulated below.

**Rate for Purchase (including Band) of Firm/ Infirm Power from CGP/
Cogeneration plants**

Purchase Condition	Frequency	Purchase Rate
Firm Purchase		
Non-Co-generation CGPs	At all frequency within range ABT	As per CERC's UI rate subject to the Floor rate of Rs. 2.10 per kWh and the ceiling rate of Rs.4.08 per kWh (As per the rates worked out on the average frequency of the time-block shown in the table under section 12 (1)(xii))
Co-generation Plants	At all frequency within range ABT	10% premium over the rate prescribed under firm purchase for Non-Cogeneration based CGPs i.e. As per UI rate subject to the floor rate of 110% of Firm power rate of Non-Cogeneration based CGPs and 110% of ceiling rate of Non-Cogeneration based CGPs
Infirm Purchase		
Non-Co-generation CGPs	At all frequency within range ABT	90% of the applicable rate prescribed under firm purchase for Non-Co-generation CGPs
Co-generation plants	At all frequency within range ABT	90% of the applicable rate prescribed under firm purchase for Co-generation Plants

(xii) The Charges linked to the frequency payable to the CGPs/Cogeneration plants as per the CERC's UI rate in force are tabulated below:

Frequency Range (Hz)		UI rate
Below	Not below	Paise/Unit
---	50.30	210
50.06	50.04	
---	---	
---	---	
50.00	49.98	
49.98	49.96	
49.96	49.94	216
49.94	49.92	228
49.92	49.90	240
49.90	49.88	252
49.88	49.86	264
49.86	49.84	276
49.84	49.82	288
49.82	49.80	300
49.80	49.78	312
49.78	49.76	324
49.76	49.74	336
49.74	49.72	348
49.72	49.70	360
49.70	49.68	372
49.68	49.66	384
49.66	49.64	396
49.64	49.62	408
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---	---	
49.24	49.22	
49.22	49.20	

(xiii) Common requirements for both firm and infirm CGP/ Cogeneration Power purchases by Distribution Licensee:-

(a) The Distribution Licensee shall purchase the firm supply, committed and contracted with the CGP / Cogeneration plants. However, the Licensee has the

option to buy or not the infirm supply offered by the CGP / Cogeneration plants. The payments for the power purchase from the CGPs/ Cogeneration plants by the Distribution Licensee should be settled at the end of each billing cycle.

(b) ABT compliant Special Energy Meters at the grid entry points of the CGP/ Cogeneration plant shall be installed as per the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006.

(c) It shall be noted that the floor rate of Rs.2.10 is fixed but the ceiling rate may vary as and when CERC revises the same.”

(ii) in sub-section 8, in clause (i), -

(a) for sub-clause (1), the following sub-clause shall be substituted, namely,

“(1) The CGP / Cogeneration holder shall provide metering arrangements in accordance with the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006”

(b) in sub-clause (2), for the first sentence, the following sentence shall be substituted, namely,

“The main meters shall be provided as per the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006”

(c) for sub-clause (3), the following sub-clause shall be substituted, namely,

“(3) The check meters shall be provided as per the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006”

(d) in sub-clause (4), for the first sentence, the following sentence shall be substituted, namely:

“The main and check meters shall be calibrated as per the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006”

(e) in sub-clause (7), for the second sentence, the following sentence shall be substituted, namely:

“Such special energy meters shall be installed as per the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006”

(By order of the Tamil Nadu Electricity Regulatory Commission)

**Secretary,
Tamil Nadu Electricity Regulatory Commission.**