



## **TAMIL NADU ELECTRICITY REGULATORY COMMISSION**

4<sup>th</sup> Floor, SIDCO Corporate Office building, Thiru.Vi.Ka Industrial Estate,  
Guindy, Chennai - 600 032.

Phone Nos : ++91-044-2953 5806 / 2953 5816 Fax : ++91-044-2953 5893

Email: [tnerc@nic.in](mailto:tnerc@nic.in)

Website: [www.tnerc.gov.in](http://www.tnerc.gov.in)

Draft Notification No. TNERC/TR/5-5/2024, dated 26-06-2024

(Comments/suggestions are invited on or before 12-07-2024)

### **DRAFT TAMIL NADU ELECTRICITY REGULATORY COMMISSION (TERMS AND CONDITIONS FOR DETERMINATION OF TARIFF) REGULATIONS, 2024.**

The following draft amendment to the Tamil Nadu Electricity Regulatory Commission (Terms and conditions for determination of Tariff) Regulations, 2005 (hereafter referred to as "the Principal Regulations") in exercise of the powers conferred by Sections 61 of the Electricity Act, 2003 (Central Act 36 of 2003) read with Section 181 of the said Act and all other powers enabling it in this behalf is hereby published for information of all persons likely to be affected thereby, as required under subsection (3) of section 181 of the Electricity Act, 2003.

2. Notice is hereby given that the draft Regulations will be taken into consideration after the expiry of 15 days from the date of publication of this notification in the TNERC website and that any objection or suggestion, which may be received from any person before the expiry of the aforesaid period, will be considered by the Commission.

3. Objection or suggestion, if any, should be addressed in duplicate to the Secretary, Tamil Nadu Electricity Regulatory Commission, 4<sup>th</sup> floor, SIDCO Corporate Office Building, Thiru-Vi-Ka Industrial Estate, Guindy, Chennai – 600 032.

### **REGULATIONS**

#### **1. Short Title, Commencement and Extent**

1.1 These Regulations may be called the "Tamil Nadu Electricity Regulatory Commission (Terms and conditions for determination of Tariff) Amendment Regulations, 2024".

1.2 These Regulations shall come into force from 01-04-2022.

## **2. Amendment to Regulation 37 of the Principal Regulations:**

After the item (vi) in Regulation 37 of the Principal Regulations, the following items shall be added namely:

### **“(vii) Impact of Part Load Operation on performance of Thermal Generating Stations:**

#### **1. Coal/lignite based thermal generating stations:**

##### **i) Impact on the station heat rate:**

The applicable factors for unit heat rate degradation at part loading for sub-critical and super-critical units are as follows:

Unit Heat Rate degradation (%)			
Sl. No.	Unit loading (%)	Sub-critical units	Super-critical units
	80 – 100	Nil	Nil
	75-<80	3.0	2.5
	70-<75	4.0	3.3
	65-<70	5.1	4.1
	60-<65	6.1	4.9
	55-<60	7.6	6.0
	50-<55	9.2	7.1
	45-<50	11.3	8.3
	40-<45	13.8	9.9

##### **ii) Impact on auxiliary energy consumption:**

The admissible additional auxiliary energy consumption values at part loading of coal / lignite based thermal generating stations are as follows:

Sl. No.	Module / Plant loading as % of installed capacity	Admissible % degradation in auxiliary energy consumption (% point)
1	80 – 100	Nil
2	70-<80	1.1
3	60-<70	1.8
4	50-<60	2.5
5	40-<50	3.2

Provided that in case of additional auxiliary consumption arised due to implementation of DeSOx system and/or DeNOx system, the generation company concerned may file appropriate petition before the Commission for revision of parameters.

iii) Impact on Specific Fuel Oil Consumption:

Considering flexible operation requirement of coal based thermal stations in view of capacity addition from Renewable sources, additional specific oil consumption of 0.2 ml/kWh is provided for units operating in 40-55% average loading.

**2. Gas / liquid fuel based thermal generating stations:**

i) Impact on station heat rate:

The degradation of module / plant gross heat rate for gas / liquid fuel based thermal generating stations in Combined Cycle Gas Turbine mode of operation are as below:

Sl. No.	Module / Plant loading as % of installed capacity	Increase in Module/Plant heat rate (%)
1	80-100	Nil
2	70-<80	5
3	60-<70	8
4	50-<60	12

ii) The degradation of module / plant heat rate for gas/liquid fuel based thermal generating stations in Open Cycle mode of operation are as below:

Sl. No.	Module / Plant loading as % of installed capacity	Increase in Module/Plant heat rate (%)
1	80-100	Nil
2	70-<80	7
3	60-<70	11
4	50-<60	16

iii) Impact on auxiliary energy consumption:

The additional auxiliary energy consumption admissible at part loading of gas / liquid fuel based thermal generating station is proposed to be considered as below:

Sl. No.	Module / Plant loading as % of installed capacity	Admissible % additional auxiliary energy consumption (% point)
1	80-100	Nil
2	70-<80	0.50
3	60-<70	0.80
4	50-<60	1.20

**(viii) Transit losses of coal:**

For coal and lignite, the transit and handling losses shall be as per the following norms:

Thermal Generating Station	Transit and Handling losses (%)
Pit-head (using Rail/Road)	0.20%
Non-pit head (All rail route (ARR) – where loading into railway rakes is done by coal company)	0.80%
Non-pit head (Road cum Rail (RCR) Route – where coal is lifted from mines, transported to good shed / other siding by road and then loading into railway rakes is done by generating company or other multi-modal transportation system involving multiple transshipments)	1.00%

Provided that in the case of any combination of the above modes of transportation, the transit and handling losses shall be calculated on pro-rata basis using the formula given below:

Transit loss of coal / lignite based stations (%) = 0.2% x (Percentage of coal transported through pit-head source) + 0.8% x (Percentage of coal transported through ARR) + 1.0% x (Percentage of coal transported through RCR route or other multi-modal transportation system involving multiple trans-shipments).

Provided further that in case of imported coal, the transit and handling losses applicable for pit-head station shall apply.

(By order of the Tamil Nadu Electricity Regulatory Commission)

Sd/- dated 26-06-2024  
Secretary  
Tamil Nadu Electricity Regulatory Commission

## **Explanatory Statement**

The amendment to the TNERC (Terms and conditions for determination of Tariff) Regulations, 2005 is proposed to be amended by including the new items namely "(vii) Impact of Part Load Operation on performance of Thermal Generating Stations and (viii) Transit losses of coal" due to the following reasons:

1. Tamil Nadu being the RE rich state and further potential for development of RE power projects, has to further promote development of RE power within the State in line with the RPO trajectory notified by the Ministry of Power. Accordingly, the Commission had earlier notified the Tamil Nadu Electricity Regulatory Commission (Renewable Energy Purchase Obligation) Regulations, 2023.
2. Further, it is noted that the power generation mix is rapidly shifting towards a more significant share of Renewable Energy in our country. Further, the Government of India's vision is to achieve Net Zero emissions by 2070, in addition to attain the short-term target of achieving 500 GW capacity by the year 2030.
3. Tamil Nadu is being the RE rich state, the generated RE power should be absorbed into the grid without any curtailment. To absorb such RE power, which are infirm in nature, the existing State owned thermal power plants should be ramped up and down very frequently, which results in increased station heat rate, auxiliary consumption, specific fuel consumption, etc. Most of the State owned thermal power plants operate at lesser PLF than the normative PLF of 80%. Therefore, it is necessary either to compensate these State owned Power Plants or fixing some relaxed technical parameters to these power plants.
4. It is pertinent to note that the Central Electricity Authority (CEA) vide their letter dated 15-03-2024 addressed to the Hon'ble CERC suggested "relaxed operational parameters" for the thermal power stations being operated at part load.
5. The TANGEDCO in their recent true-up petitions filed before the Commission for the year 2022-23 has requested to consider the actual operating parameters since the same is exceeded the normative operating parameters.
6. In order to safeguard the interest of the State owned Thermal Power Plants, the Commission has proposed this draft amendment duly considering the parameters suggested by the CEA.

(By order of the Tamil Nadu Electricity Regulatory Commission)

Sd/- dated 26-06-2024

Secretary

Tamil Nadu Electricity Regulatory Commission