



Telangana State Electricity Regulatory Commission

**5th Floor, Singareni Bhavan, Red Hills, Lakdi-ka-pul,
Hyderabad 500004.**

ORDER

**Determination of Cross Subsidy Surcharge
FY 2017-18**

26.08.2017

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**TELANGANA STATE ELECTRICITY REGULATORY COMMISSION
HYDERABAD**

Present

Sri Ismail Ali Khan, Chairman

Sri H. Srinivasulu, Member

Dated 26.08.2017

O.P.No. 22 of 2016

Southern Power Distribution Company of Telangana Limited (TSSPDCL)

O.P. No. 23 of 2016

Northern Power Distribution Company of Telangana Limited (TSNPDCL)

... Applicants

The Southern Power Distribution Company of Telangana Limited (TSSPDCL) and the Northern Power Distribution Company of Telangana Limited (TSNPDCL) [jointly known as DISCOMs] vide the O.P. Nos. 22 of 2016 and 23 of 2016 respectively filed under Section 64 of the Electricity Act, 2003, before the Telangana State Electricity Regulatory Commission (TSERC or the Commission) and requested the Commission for the determination of Cross Subsidy Surcharge for FY 2017-18 as per the Tariff Policy notified by the Ministry of Power dated 28.01.2016. Further, the DISCOMs requested the Commission permitting for filing of Petition for determination of additional surcharge separately. The Commission, in exercise of powers conferred on it under Sections 39, 40 and 42 of the Electricity Act, 2003 and all other powers enabling it in that behalf, hereby determines the Cross Subsidy Surcharge applicable to different categories of consumers availing of open access in Transmission and Distribution system at different voltages during FY 2017-18, as indicated hereinafter.

The Commission has issued a separate Order dated 26.08.2017 filed with the same O.P. numbers for determining the Retails Supply Tariffs for FY 2017-18 w.e.f. 01.09.2017.

ORDER

1. INTRODUCTION

1.1 STATUTORY PROVISIONS

- 1.1.1. Sections 39(2) (d) (ii), 40(c) (ii) and 42(2) of the Electricity Act, 2003 (hereinafter referred to as 'the Act') provide for payment of a surcharge by the consumer (hereinafter also referred to as 'the Cross-subsidy Surcharge') when a consumer avails of power under the Open Access. Further, Section 42(2) of the Act provides that the surcharge shall be determined by the State Commission and such surcharge shall be utilized to meet the requirements of current level of cross subsidy within the area of supply of the distribution licensee.
- 1.1.2. As per the afore-mentioned provisions, to maintain current level of subsidy, cross subsidy surcharge has to be levied on the consumers who opt for open access.
- 1.1.3. Cross subsidy surcharge is normally computed as the difference between (i) the tariff applicable to the relevant category of consumers and (ii) the cost of the distribution licensee to supply electricity to the consumers of the applicable class i.e., Cost of Service (CoS) for a particular category of consumers.
- 1.1.4. This Commission was constituted as per section 82 of the Electricity Act 2003 read in conjuncture with the AP State Reorganization Act, 2014 and started functioning with effect from 3rd November 2014. This Commission proposed to determine the Cross Subsidy Surcharge for FY 2017-18 based on the methodology stipulated in the Tariff Policy dated 28.01.2016, notified by the Ministry of Power, Government of India.
- 1.1.5. The methodology, for determining the Cross Subsidy Surcharge, prescribed by the Tariff Policy, 2016 is as indicated below.

1.2 TARIFF POLICY, 2016

- 1.1.6. As per the Tariff Policy notified by the MoP on 28.01.2016, SERCs may calculate the cost of supply of electricity by the distribution licensee to consumers of the applicable class as aggregate of (a) per unit weighted average cost of power purchase including meeting the Renewable Purchase Obligation; (b) transmission and distribution losses applicable to the relevant voltage level and commercial losses allowed by the SERC; (c) transmission, distribution and wheeling charges up to the relevant voltage level; and (d) per unit cost of carrying regulatory assets, if applicable.
- 1.1.7. The formula prescribed in the Tariff Policy, 2016 for computation of Cross Subsidy Surcharge is as given below:

$$\mathbf{S = T - [C / (1 - L / 100) + D + R]}$$

Where,

S - is the surcharge

T - is the tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation

C - is the per unit weighted average cost of power purchase by the Licensee, including meeting the Renewable Purchase Obligation

D - is the aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level

L - is the aggregate of transmission, distribution and commercial losses, expressed as a percentage applicable to the relevant voltage level

R - is the per unit cost of carrying regulatory assets.

2. STAKEHOLDER CONSULTATION

2.1 EXEMPTION FROM PAYMENT OF CROSS SUBSIDY SURCHARGE

2.1.1 The South Central Railway submitted that Indian Railways have availed of power through Open Access in the States of Maharashtra, Gujarat and Madhya Pradesh from RGPPL at the rate of INR 4.70/kWh. The option of procuring power through Open Access is being planned in the Telangana State.

2.1.2 The Tariff Policy, 2016 stipulates as under:

“Provided further that the appropriate commission, in consultation with the Appropriate Government, shall exempt levy of cross subsidy surcharge on the Railways as defined in Indian Railways Act, 1989 being a deemed licensee on electricity purchased for its own consumption.”

2.1.3 Citing the above, the South Central Railway requested the Commission to exempt Railways from payment of Cross Subsidy Surcharge as it is a Deemed Distribution Licensee.

Replies of Licensees

2.1.4 The relief sought by the South Central Railway is under the purview of the Commission.

Commission's Views

2.1.5 If the Indian Railways desires to avail of the Deemed Licensee status in order to avail of the exemption from payment of Cross Subsidy Surcharge, it can approach the Commission through a Petition as per the Regulations in force, and such petition shall be disposed-off in accordance with the provisions of the Act after following the principles of natural justice.

3. CROSS SUBSIDY SURCHARGE FOR FY 2017-18

3.1 CROSS SUBSIDY SURCHARGE FOR FY 2017-18

3.1.1 The DISCOMs requested the Commission for determination of Cross Subsidy Surcharge for FY 2017-18 as per the Tariff Policy notified by the Ministry of Power dated 28.01.2016.

Commission's Analysis and Ruling

3.1.2 The Commission, in this Order, has adopted the cross subsidy surcharge computation formula as specified in the Tariff Policy, 2016 for determination of Cross Subsidy Surcharge for FY 2017-18.

3.1.3 The formula prescribed in the Tariff Policy, 2016 for computation of Cross Subsidy Surcharge is as given below:

$$S = T - [C / (1-L/100) + D + R]$$

Where,

S is the surcharge

T is the tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation

C is the per unit weighted average cost of power purchase by the Licensee, including meeting the Renewable Purchase Obligation

D is the aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level

L is the aggregate of transmission, distribution and commercial losses, expressed as a percentage applicable to the relevant voltage level

R is the per unit cost of carrying regulatory assets.

3.1.4 The Commission has to compute Discom wise, Category wise, Voltage wise 'T', i.e. per unit tariff (INR/unit) realized for FY 2017-18 from the relevant category of consumers, calculated based on category wise revenue anticipated from the approved sales at tariff determined for that category, divided by the approved sales, as per the Retail Supply Tariff (RST) Order. The value of T computed for each category has been presented in **Annexure 2**.

- 3.1.5 The Commission has computed Discom wise ‘C’, i.e. per unit (INR/unit) weighted average cost of power purchase approved in the RST Order, divided by the approved energy requirement. The value of C computed for each Discom has been presented in **Annexure 3**.
- 3.1.6 The Commission has computed ‘D’, i.e. per unit aggregate of transmission, distribution and wheeling charges by taking Transmission charges approved for FY 2017-18 in the MYT Order dated 01.05.2017 and Distribution charges approved voltage wise for FY 2017-18 in the Distribution Tariff Order for the third control period (FY 2014-15 to FY 2018-19) dated 27.03.2015 approved by this Commission.
- 3.1.7 The Commission has computed ‘L’, i.e. aggregate of transmission, distribution and commercial losses voltage wise for FY 2017-18, based on the percentage loss in the transmission system considered in RST order for FY 2017-18 and voltage wise approved distribution loss trajectory (including commercial losses) for the relevant year in the Distribution Tariff order for the third control period.
- 3.1.8 The Commission has not approved any regulatory assets in its RST order for FY 2017-18, hence ‘R’ (i.e. per unit cost of carrying regulatory assets) does not arise.
- 3.1.9 Based on the above, the Commission has computed the Discom wise, voltage wise Cross Subsidy Surcharge for different categories of consumers applicable to consumers availing of open access at different voltages in the area of supply of the respective Licensees. As the Commission has not approved any Tariff increase in the RST Order for FY 2017-18, hence the Cross Subsidy Surcharge applicable for FY 2017-18 has been determined to be the minimum value of the Cross Subsidy Surcharge already approved for FY 2016-17 and that is arrived at for FY 2017-18 to be the CSS charge for the respective consumer category in the FY 2017-18. Accordingly, the Cross Subsidy Surcharge applicable for FY 2017-18 as approved by the Commission is shown in the Table below:

Table 3-1: Cross Subsidy Surcharge applicable for FY 2017-18 as approved by the Commission (INR/kWh)

Category	CSS for FY 2017-18 as approved by the Commission	
	TSSPDCL	TSNPDCL
HIGH TENSION		
HT Category at 11 kV		
HT-I Industry Segregated	1.65	1.66
HT-II - Others	2.03	1.97

Category	CSS for FY 2017-18 as approved by the Commission	
	TSSPDCL	TSNPDCL
HT-III Airports, Railways and Bus stations	1.80	1.77
HT -IV Lift Irrigation and agriculture & CPWS	0.36	0.21
HT-VI Townships and Residential Colonies	1.31	1.01
HT-VII Temporary	2.76	-
HT Category at 33 kV		
HT-I Industry Segregated	1.46	1.44
HT-II - Others	1.76	1.78
HT -IV Lift Irrigation and agriculture & CPWS	1.26	0.86
HT-VI Townships and Residential Colonies	1.32	1.29
HT Category at 132 kV		
HT-I Industry Segregated	1.30	1.31
HT-II - Others	1.69	3.55
HT-III Airports, Railways and Bus stations	1.51	-
HT -IV Lift Irrigation and agriculture & CPWS	1.24	1.28
HT-V Railway Traction & HMR	1.28	1.05
HT-VI Townships and Residential Colonies	-	1.28

3.2 ADDITIONAL SURCHARGE FOR FY 2017-18

3.2.1 The submissions of the DISCOMS are as follows:

- (i) The DISCOMS have tied up considerable quantum of power procurement from various sources in order to provide reliable and quality power supply to all consumers in the State without any load shedding for FY 2017-18.
- (ii) However, if the consumers were to opt for Open Access, significant portion of the fixed costs pertaining to power purchase would be stranded leading to under recovery of the fixed costs.
- (iii) In order to recover the fixed costs of the stranded assets, DISCOMS have requested the Commission for permitting them in filing of a separate Petition for determination of additional surcharge later.

Commission's Analysis and Ruling

3.2.2 The DISCOMs may approach the Commission for determination of additional surcharge to be levied on Open Access consumers, duly establishing the costs that are going to be stranded, to be examined by the Commission and to pass necessary orders.

The Cross Subsidy Surcharge applicable for FY 2017-18 as approved by the Commission in this Order shall be effective from 01.09.2017.

This Order is signed on this 26th August, 2017.

**Sd/-
H. SRINIVASULU
MEMBER**

**Sd/-
ISMAIL ALI KHAN
CHAIRMAN**

Annexure 1: Cross Subsidy Surcharge for FY 2017-18 as determined by the Commission

**TSSPDCL - Cross Subsidy Surcharge for FY 2017-18 as computed by the Commission
(INR/kWh)**

Category	Average realisation (AR)	Weighted average PP cost	Aggregate loss %	Aggregate T & D charge	Cost of carrying Regulatory asset	CSS	20% limit of AR	CSS arrived by Commission (as per NTP 2016)
	(T)	(C)	(L)	(D)	(R)	(S)	(20% of AR)	Least value
HIGH TENSION								
HT Category at 11 kV								
HT-I Industry Segregated	8.35	4.16	11.06%	0.70	0.00	2.98	1.67	1.67
HT-II - Others	10.16	4.16	11.06%	0.70	0.00	5.30	2.03	2.03
HT-III Airports, Railways and Bus stations	9.00	4.16	11.06%	0.70	0.00	4.14	1.80	1.80
HT -IV Lift Irrigation and agriculture & CPWS	6.03	4.16	11.06%	0.70	0.00	1.17	1.21	1.17
HT-VI Townships and Residential Colonies	6.69	4.16	11.06%	0.70	0.00	1.83	1.34	1.34
HT Temporary	14.46	4.16	11.06%	0.70	0.00	9.61	2.89	2.89
HT Category at 33 kV								
HT-I Industry Segregated	7.31	4.16	6.97%	0.21	0.00	2.63	1.46	1.46
HT-II - Others	8.78	4.16	6.97%	0.21	0.00	4.10	1.76	1.76
HT -IV Lift Irrigation and agriculture & CPWS	6.39	4.16	6.97%	0.21	0.00	1.71	1.28	1.28
HT-VI Townships and Residential Colonies	6.73	4.16	6.97%	0.21	0.00	2.06	1.35	1.35
HT Category at 132 kV								
HT-I Industry Segregated	6.52	4.16	3.10%	0.09	0.00	2.14	1.30	1.30
HT-II - Others	8.47	4.16	3.10%	0.09	0.00	4.09	1.69	1.69
HT-III Airports, Railways and Bustations	8.09	4.16	3.10%	0.09	0.00	3.71	1.62	1.62
HT -IV Lift Irrigation and agriculture & CPWS	6.40	4.16	3.10%	0.09	0.00	2.02	1.28	1.28
HT-V Railway Traction & HMR	6.40	4.16	3.10%	0.09	0.00	2.02	1.28	1.28

**TSNPDCL - Cross Subsidy Surcharge for FY 2017-18 as computed by the Commission
(INR/kWh)**

Category	Average realisation (AR)	Weighted average PP cost	Aggregate loss %	Aggregate T & D charge	Cost of carrying Regulatory asset	CSS	20% limit of AR	CSS computed by the Commission
	(T)	(C)	(L)	(D)	(R)	(S)	(20% of AR)	Least value
HIGH TENSION								
HT Category at 11 kV								
HT-I Industry Segregated	8.51	4.14	10.88%	0.89	0.00	2.97	1.70	1.70
HT-II - Others	9.87	4.14	10.88%	0.89	0.00	4.34	1.97	1.97
HT-III Airports, Railways and Bus stations.	8.86	4.14	10.88%	0.89	0.00	3.33	1.77	1.77
HT -IV Lift Irrigation and agriculture & CPWS	5.98	4.14	10.88%	0.89	0.00	0.45	1.20	0.45
HT-VI Townships and Residential Colonies	6.55	4.14	10.88%	0.89	0.00	1.01	1.31	1.01
HT Category at 33 kV								
HT-I Industry Segregated	7.48	4.14	6.98%	0.20	0.00	2.83	1.50	1.50
HT-II - Others	9.21	4.14	6.98%	0.20	0.00	4.56	1.84	1.84
HT -IV Lift Irrigation and agriculture & CPWS	5.62	4.14	6.98%	0.20	0.00	0.97	1.12	0.97
HT-VI Townships and Residential Colonies	6.43	4.14	6.98%	0.20	0.00	1.78	1.29	1.29
HT Category at 132 kV								
HT-I Industry Segregated	6.54	4.14	3.10%	0.09	0.00	2.18	1.31	1.31
HT-II - Others	24.98	4.14	3.10%	0.09	0.00	20.62	5.00	5.00
HT -IV Lift Irrigation and agriculture & CPWS	6.40	4.14	3.10%	0.09	0.00	2.04	1.28	1.28
HT-V Railway Traction & HMR	5.41	4.14	3.10%	0.09	0.00	1.05	1.08	1.05
HT-VI Townships and Residential Colonies	6.43	4.14	3.10%	0.09	0.00	2.07	1.29	1.29

Annexure 2: Average Revenue realization for TSSPDCL and TSNPDCL for FY 2017-18

Consumer Category		FY 2017-18					
		TSSPDCL			TSNPDCL		
		Sales (MU)	Revenue (INR Crs)	Average Realisation (INR/kWh)	Sales (MU)	Revenue (INR Crs)	Average Realisation (INR/kWh)
HT Categories							
HT I	Industry Segregated						
	11 kV	3151.31	2632.26	8.35	525.85	447.44	8.51
	33 kV	4154.72	3037.87	7.31	184.21	137.84	7.48
	132 kV	2386.98	1555.29	6.52	694.65	454.03	6.54
HT II	Others						
	11 kV	1466.65	1489.56	10.16	116.71	115.26	9.87
	33 kV	631.70	554.49	8.78	18.57	17.10	9.21
	132 kV	74.39	63.00	8.47	3.38	8.44	24.98
HT III	Airports, Railways and Bus Stations						
	11 kV	5.62	5.06	9.00	8.09	7.17	8.86
	33 kV	0.00	0.00	NA	0.00	0.00	NA
	132 kV	55.40	44.79	8.09	0.00	0.00	NA
HT IV(A&B)	Lift Irrigation & Agriculture						
	11 kV	95.70	57.72	6.03	127.15	76.04	5.98
	33 kV	59.57	38.06	6.39	155.73	87.52	5.62
	132 kV	825.12	528.12	6.40	947.92	606.73	6.40
HT V(A)	Railway Traction	142.94	90.73	6.35	415.92	225.02	5.41
HT V(B)	Hyderabad Metro Rail (HMR)	12.44	8.68	6.97	0.00	0.00	NA
HT VI	Townships and Residential Colonies						
	11 kV	85.94	57.48	6.69	11.94	7.82	6.55
	33 kV	46.78	31.50	6.73	48.90	31.43	6.43
	132 kV	0.00	0.00	NA	100.69	64.71	6.43
HTVII	Temporary Supply	32.12	46.45	14.46	0.00	0.00	NA
HT VIII	RESCOs	0.00	0.00	NA	749.83	74.99	1.00
Grand Total		31757.65	17547.37	5.53	13367.40	4501.26	3.37

Annexure 3: Weighted Average Power Purchase Cost for FY 2017-18

Particulars	TSSPDCL	TSNPDCL
Power Purchase Quantum (MU)	36658.23	15587.16
Power Purchase Cost (INR Crs)	15242.63	6449.57
Average Power Purchase Cost per unit (INR/kWh)	4.16	4.14

Annexure 4: Calculation of each Voltage wise Distribution Charges for FY 2017-18

Voltage	TSSPDCL		TSNPDCL	
	Charge (INR/kVA/month)	INR/kWh	Charge (INR/kVA/month)	INR/kWh
LT	446.15	1.26	714.49	1.93
11kV	211.62	0.49	332.70	0.69
33kV	18.34	0.12	14.28	0.11
132kV & above	50.68	0.09	50.68	0.09