IN THE APPELLATE TRIBUNAL FOR ELECTRICITY
(Appellate Jurisdiction)

APPEAL No. 199 of 2017

Dated : 17th April, 2025

Present: Hon'ble Mr. Sandesh Kumar Sharma, Technical Member
Hon'ble Mr. Virender Bhat, Judicial Member

In the matter of:

Andhra Pradesh Spinning Mills Association
Sai Plaza, 1st Floor,
Above Bank of India,
Road No. 1, Guntur – 522 007 … Appellant

Versus

1. **Andhra Pradesh Electricity Regulatory Commission**
Through Secretary
4th Floor, Singareni Bhawan,
Red Hills, Lakdi-ka-Pul
Hyderabad – 500 004

2. **Southern Power Distribution Company of A. P. Ltd.**
Through Chairman & Managing Director
Srinivasapuram, Tiruchanoor Road,
Tirupati – 517503
Andhra Pradesh

3. **Eastern Power Distribution Company of A. P. Ltd.**
Through Chairman & Managing Director
P&T Colony, Seethammadhara,
Visakhapatnam – 530013
Andhra Pradesh … Respondent (s)

Counsel for the Appellant(s)	:	Rajiv Yadav for App. 1
Counsel for the Respondent(s)	:	Gaichangpou Gangmei Arjun D Singh Ankita Sharma Yashvir Kumar Rajat Srivastava Lothungbeni T. Lotha Maitreya Mahaley Yimyanger Longkumer for Res. 1 Udit Gupta Anup Jain Vyom Chaturvedi Pragya Gupta Divya Hirawat Nishtha Goel for Res. 2 & 3

J U D G M E N T

PER HON'BLE MR. VIRENDER BHAT, JUDICIAL MEMBER

1. The Appellant, Association of HT Consumers in the State of Andhra Pradesh has assailed the tariff order dated 31st March, 2017 issued by 1st Respondent – Andhra Pradesh Electricity Regulatory Commission (in short "the Commission") thereby determining retail tariff for the sale of electricity during the Financial Year 2017-18.

2. The 2nd Respondent – Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL) and 3rd Respondent Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL)

are Government of Andhra Pradesh owned Distribution Companies supplying power to the consumers in Southern part and Eastern part of the Andhra Pradesh respectively.

3. The members of the Appellant Association also get their electricity supply from the Respondent Nos. 2 & 3.

4. The grievance of the Appellant is that the Commission has, in the impugned tariff order, allowed waiver of 60% of power purchase related fixed cost applicable to agricultural consumers in the absence of any such plea from the distribution companies i.e. Respondent Nos. 2 & 3 in the tariff petitions and despite holding that the co-incidental demand of agricultural consumers is to be adjusted by a factor of 40% for allocation of fixed cost of power purchase. It is further contended that even the figure of 40% is not supported by any data or sound basis and has been fixed randomly by the Commission, which has resulted in excessive cross subsidization vis-à-vis the domestic consumers and industrial consumers.

5. Before adverting to the rival contentions and the submissions of the parties, we find it apposite to extract here under the impugned findings of the Commission :-

"243. Based on the views / objections / suggestions received

regarding the methodology used for computation of Cost of Service (CoS), the Commission intends to elaborate the embedded cost methodology used for FY 2017-18.

1. The following steps were followed by the Licensees in arriving at the Cost of Service (CoS) for different consumer categories

a) Determination of Category-wise Load Curves

- *Load Shapes of different categories of consumers are constructed based on the hourly demand data from feeder samples.*
- *Data is collected from sample feeders from all the circles for each category.*
- *From each sample feeder, hourly data was collected for upto 10 days per quarter.*
- *These samples are collected during normal working days as well as non-working days like Sundays, Festivals and other Holidays.*
- *Based on the collected feeder samples, load curve for each category has been arrived.*

b) Estimation of Coincident and Non-Coincident Demand for each Category

- *Demand at customer voltage level for FY2017-18 is estimated using the load curves and FY 2017-18 projected sales of each category.*
- *Hourly demand for each category is grossed up with applicable T&D losses to arrive at the demand contributed by*

each category to the grid demand.

- *Maximum Demand of each category is considered as Non-Coincident Demand.*
- *Based on the hourly demands of each category at the grid level the peak time in the morning hours (00:00 AM – 12:00 PM) and evening hours (12:00 PM – 00:00 AM) is arrived.*
- *Corresponding average demand contributed by each category during the peak hour in the morning hours and in the evening hours is considered as Coincident Demand.*

c) Allocation of expenditure to consumer categories

- ***Power Purchase Cost Allocation***
  - *Fixed costs of power purchase are primarily dependent on the system peak demand, hence fixed cost component of Power Purchase is considered as demand related expenditure and is allocated in proportion to the Coincident Demand of each category.*
  - *However, as supply is regulated for Agricultural Category to optimally supply when the capacity is idle, (i.e. when the generation capacity is not used by others), the coincident demand of agriculture is adjusted by a factor of 40% for allocation of fixed costs of power purchase.*
  - *Variable costs of power purchase are primarily dependent on the energy requirement, hence variable cost component of Power Purchase is considered as energy related expenditure and is allocated in proportion to the energy requirement of each category.*

- ***Transmission Cost Allocation***
    - *Transmission Costs including PGCIL Costs, SLDC Costs and ULDC Charges are primarily dependent on the Non-Coincident Demand, hence these costs are considered as demand related expenditure and is allocated in proportion to the Non-Coincident Demand of each category."*
- ***Distribution Cost Allocation***
    - *Distribution Costs which consists primarily of Employee Expenses, Interest and Depreciation costs of Distribution Assets, are dependent on the Non-Coincident Demand, as well as on the number of customers. Hence, 80% of the Distribution Cost is considered as Demand Related Expenditure and is allocated in proportion to the Non-Coincident Demand of each category. 20% of the Distribution Cost is considered as consumer related expenditure and is allocated in proportion to the number of consumers of each category.*
- ***Interest on Security Deposit***
    - *Consumer Security Deposits (CSD) are primarily dependent on the energy consumed by each category. Hence, the interest on CSD is considered as energy related expenditure and is allocated in proportion to the energy requirement of each category.*
- ***Supply Margin***
    - *Supply Margin is linked to the Distribution Assets. Hence the*

Supply Margin is considered as Demand Related Expenditure and is allocated in proportion to the Non-Coincident Demand of each category.

- ***Other Costs***
  - *Other costs are incurred on distribution assets. Hence the other costs are considered as Demand Related Expenditure and is allocated in proportion to the Non-Coincident Demand of each category.*

d) Computation of Cost of Service

- *Embedded cost for each consumer category has been computed by adding allocated demand related expenditure, energy related expenditure and consumer related expenditure as described above.*
- *The Cost of Service (CoS) per unit (average cost of supply) has been computed for each consumer category by dividing the allocated cost / ARR to each consumer category with the sales volume proposed for that category during FY 2017-18.*

Commission's View: *The Commission has reallocated the costs based on revised sales, ARR while accepting the Embedded Cost Methodology used by the Licensees as the basis.*

The Commission recognizes the limitations of this particular Embedded Cost Model used in computing the cost of service in terms of limited sample data and data insufficiency and thus, the CoS cannot be simply related to the tariff fixed in this Tariff Order. At best, these CoS rates are guide posts for consumers and licensees *for possible future direction of tariff for retail sale of electricity.*

Conclusion

2. *The CoS worked out for each consumer category has been used for the purpose of observing the cost and cross subsidy amounts to make decisions on tariff setting, for different consumer categories and to determine the tariff to recover the approved ARR for FY2017-18 in respect of each Licensee."*

6. The calculations made by the Commission for Respondent Nos. 2 & 3 in accordance with the above noted conclusion has been given in Table 33 to Table 39 in the impugned order which would be referred to at the relevant stage.

7. We may note here that none has appeared on behalf of the Commission to contest the appeal. Even none appeared on behalf of the 2nd and 3rd Respondent to make their submissions. However, they have filed joint written submissions which have been considered. We heard the Learned Counsel for the Appellant and have also gone through the written submissions filed by him.

8. A perusal of the above noted portion of the impugned tariff order of the Commission reveals that the Commission has determined Cost of

Service (CoS) for different categories of consumers on the basis of Embedded Cost Method (ECM) which has been described in paragraph No. 241 of the order. The same is extracted herein below.

"Embedded Cost Method

241. The Commission intends to adopt a fullscale CoS model based on embedded cost method in which the costs are functionalized into demand, energy and customer related. Subsequent to this, these functionalized costs are to be allocated to different consumer categories based on class load and coincidence factors, sales, consumers contracted capacity, transmission contracted capacities of licensees, etc. Once the costs are allocated to different consumer categories, the unit cost of consumers which is known as CoS is computed through dividing the allocated cost with the expected sales to that consumer category."

9. Thus, under the said methodology, the tariff for a consumer category was determined by dividing the total CoS of such category by the number of units projected to be sold to such category of consumers.

10. The steps involved in determining the CoS for different consumer categories have been specified in para 244 of the impugned order which has been reproduced herein above. It is manifest that the fixed cost component of power purchase has been considered and allocated to

different consumer categories on the basis of and in proportion to the co-incident demand of each category.

11. "Coincident Demand" represents the average demand contributed by each category during peak hours i.e. in the morning hours and in the evening hours. To put it pithily, the average demand of each consumer category at the time of total system demand in the morning hours and evening hours becomes the coincident demand for such consumer category which formed the basis for allocation of power purchase related fixed costs. The actual coincident demand considered by the State Commission for different consumer categories has been specified in table 33 & 34 of the impugned order under paragraph No. 245.

12. The CoS determined by the Commission is "(a) demand related, (b) Energy related, and (c) consumer related

13. We may note that a significant component of "demand related costs" is the fixed cost of power purchase which emanates from the obligation of a distribution company to pay fixed charges to the generating company with which it has a power purchase agreement, regardless of the quantum of actual power procured in any given month. Since the execution of PPAs by a Discom is commensurate with the electricity consumption requirement i.e. the demand of its consumers, the fixed cost obligation

under the PPAs is required to be borne by the consumer categories in proportion to their share in the total demand for electricity had to be met by the Discoms.

14. In paragraph 244 (c) of the impugned order, already reproduced herein above, the Commission has held that the co-incident demand of agricultural is adjusted by a factor of 40% for allocation of fixed costs of power purchase for the reason that supply of agricultural category is regulated optimally i.e. when the capacity is idle (when the generation capacity is not used by others).

15. It is argued on behalf of the Appellant that despite determining adjustment (waiver) of 40% for agricultural consumers for allocation of fixed cost of power purchase, the Commission has actually granted adjustment of 60% of such costs to the said consumer category. The said has been explained by the Learned Counsel as under :-

"The total costs, functionalized into Demand related, Energy related and Consumer related, are given in Table 35 & 36 of the impugned order and the same are extracted hereunder for ready reference:

Table 35: Allocation of Expenditure of APEPDCL for FY 2017-18

Cost Description	***Demand Related Expenditure (Rs. Cr.)***	***Energy Related Expenditure (Rs. Cr.)***	***Consumer Related Expenditure (Rs. Cr.)***	***Total Expenditure (Rs. Cr.)***
Power Purchase Cost	*2209.56*	*5057.42*	*-*	*7266.98*

Transmission + PGCIL + ULDC + SLDC Costs	*601.49*	*-*	*-*	*601.49*
Distribution Cost	*1218.35*	*-*	*304.59*	*1522.94*
Supply Margin	*5.72*	*-*	*-*	*5.72*
Interest on Consumption Deposit Others	*-*	*102.90*	*-*	*102.90*
Others	*57.58*	*-*	*-*	*57.58*
Expense for Elec. accidents Compensation	*-*	*-*	*9.50*	*9.50*
Total	***4092.71***	***5160.32***	***314.09***	***9567.13***

Table 36: Allocation of Expenditure of APSPDCL for FY 2017-18

Cost Description	***Demand Related Expenditure (Rs. Cr.)***	***Energy Related Expenditure (Rs. Cr.)***	***Consumer Related Expenditure (Rs. Cr.)***	***Total Expenditure (Rs. Cr.)***
Power Purchase Cost	*4232.97*	*9990.84*	*-*	*14223.81*
Transmission + PGCIL + ULDC + SLDC Costs	*1138.22*	*-*	*-*	*1138.22*
Distribution Cost	*2032.88*	*-*	*508.22*	*2541.10*
Supply Margin	*12.79*	*-*	*-*	*12.79*
Interest on Consumption Deposit Others	*-*	*184.33*	*-*	*184.33*
Others	*81.33*	*-*	*-*	*81.33*

Expense for Elec. accidents Compensation	*-*	*-*	*15.50*	*15.50*
Total	***7498.20***	***10175.17***	***523.72***	***18197.10***

ii) The subject Demand related Power Purchase Cost (or fixed cost of power purchase) considered by the Ld. State Commission is Rs. 2209.56 crore and Rs. 4232.97 crore for APEPDCL and APSPDCL respectively.

iii) The said fixed cost of power purchase, as well as other demand related costs specified in Table 35 & 36 had to be borne by different consumer categories in proportion to their Coincident Demand/Non-coincident Demand, as per the stated methodology in the impugned order.

iv) The Coincident Demand of different consumer categories, alongwith total demand of the respondent DISCOMS, has been provided in Table 33 & 34 of the impugned order (@Pg 272-273 of the appeal paper-book). The relevant Coincident Demand figures for agricultural consumers, culled out from Table 33 & 34 are as follows:

Irrigation and Agriculture - Category V	***APEPDCL***	***APSPDCL***
Coincident Demand (MW)	*201*	*1378*
Total Demand (MW)	*2197*	*4298*
Proportionate Share (%) T	*9.14%*	*32.06%*

The agricultural consumers of APEPDCL and APSPDCL had to respectively bear 9.14% and 32.06% of Demand Related Expenditure pertaining to Power Purchase Cost (i.e. Fixed cost of Power Purchase). The demand related expenditure pertaining to other costs was recoverable as per the non-coincident demand of the relevant consumer category.

(v) *It is submitted that upon allocation of Demand related costs (given in Table 35 & 36 above) on the basis of Coincident Demand, the following costs should have been allocated to agricultural consumers as per the 'embedded cost methodology' adopted in the impugned order:*

Irrigation and Agriculture (LT-V)	***Demand related cost/fixed cost (Rs. Cr.)***					
	Power Purchase*	***Transmis sion*****	***Distribution Cost*****	***Supply Margin*****	***Others*****	***Total***
APEPDCL	*202.15*	*88.89*	*180.05*	*0.85*	*8.51*	***480.45***
APSPDCL	*1356.83*	*333.66*	*595.92*	*3.75*	*23.84*	***2314.00***

** Power Purchased related fixed cost @ Coincident Demand (para 244(c) of impugned order @ Pg. 270 of appeal) i.e.* ***9.14% of Rs. 2209.56 cr.- Rs. 202 cr. (approx.)***

***Transmission, Distribution, Supply Margin and Others related fixed cost @ Non-Concident Demand (para 244 (c) of impugned order @Pg. 270 & 271 of appeal)*

If one were to adjust (waive) 40% of the power purchase related fixed cost of agricultural consumers, the Demand Related Cost recoverable from them should have worked out as follows:

Irrigation and Agriculture (LT-V)	***Demand related cost/fixed cost (Rs. Cr.)***					
	Power Purchase*	***Transmis sion*****	***Distribution Cost*****	***Supply Margin*****	***Others*****	***Total***
APEPDCL	*121.29**	*88.89*	*180.05*	*0.85*	*8.51*	***399.59***
APSPDCL	*814.10***	*333.66*	*595.92*	*3.75*	*23.84*	***1771.27***

** [202.15 - 40% of 202.25] = 202.25 - 80.86 = 121.29*
***[1356.83 - 40% of 1356.83] = 1356.83 - 542.73 = 814.10*

From the above calculations, it is clear that even after waiver of 40% of 'power purchase related fixed cost', an amount of Rs. 121.29 cr. and Rs. 814.10 cr. had to be allocated to agricultural consumers of APEPDCL and APSPDCL respectively. This would have translated into allocation of Rs. 399.59 and Rs. 1771.27 as total Demand related costs.

Instead, the Ld. State Commission has allocated Demand related costs of only Rs. 359.08 cr. and Rs. 1500.14 cr. to agricultural consumers of APEPDCL and APSPDCL respectively. (Table 37 & 38 @Pg. 275 - 276 of appeal paper book]

The said allocation is evidently based upon 60% waiver of power purchase related fixed cost, and the same can be demonstrated as follows:

Irrigation and Agriculture (LT-V)	***Demand related cost (Rs. Cr.)***					
	Power Purchase*	***Transmission****	***Distribution Cost****	***Supply Margin****	***Others****	***Total***
APEPDCL	*80.86**	*88.89*	*180.05*	*0.85*	*8.51*	***359.08***
APSPDCL	*542.73***	*333.66*	*595.92*	*3.75*	*23.84*	***1500.14***

*[202.15 - 60% of 202.25] = 202.25 - 121.35 = 80.90
**[1356 - 60% of 1356] = 1356 – 814 = 542

16. We may note that the said calculation made on behalf of the Appellant has not been disputed on behalf of Respondent Nos. 2 & 3 in their written submissions at all. We also do not find any error in these calculations. Therefore, it is evident that instead of waiving 40% of power purchase related fixed cost attributable to agricultural consumers (as held by the Commission in paragraph 244 (c) of the impugned order), the

Commission has actually (probably due to some arithmetical error) waived 60% of such cost for the agricultural consumers which has consequentially been loaded on to the other consumer categories including the industrial consumers like the Appellants.

17. Having said so, we also find ourselves in agreement with the submissions of the Appellant's counsel that no data or basis has been given by the Commission in the impugned order in support of its decision to adjust the coincident demand of agricultural category even by a factor of 40% for allocation of fixed cost of power purchase. We are unable to comprehend from perusal of the impugned findings of the Commission as to how did it arrive at the figure of 40%. There is no gainsaying that such approach of the Commission is not only irrational as well as baseless but also has resulted in excessive cross subsidization in favour of agricultural consumers of the two distribution companies. It is also contrary to the provisions of National Tariff Policy, 2005 which mandate the electricity regulatory commissions to prepare a road-map so that the tariffs are brought within ±20% of average cost of supply. Relevant portion of NCP 2005 is extracted herein below:-

> *"8.3 (2) For achieving the objective that the tariff progressively reflects the cost of supply of electricity,* ***the SERC would notify roadmap within six months with a target that latest by the end of year 2010-***

> ***2011 tariffs are within ± 20% of the average cost of supply.*** *The road map would also have intermediate milestones, based on the approach of a gradual reduction in cross subsidy.*
> *For example if the average cost of service is Rs 3 per unit, at the end of year 2010-2011 the tariff for the cross subsidised categories excluding those referred to in para 1 above should not be lower than Rs 2.40 per unit and that for any of the cross-subsidising categories should not go beyond Rs 3.60 per unit."*

18. Similarly, the relevant portion of NTPC 2016 also reads as under:-

> *"For achieving the objective that the tariff progressively reflects the cost of supply of electricity, the Appropriate Commission would notify a roadmap such that tariffs are brought within ±20% of the average cost of supply."*

19. Section 61 of the Electricity Act, 2003 enjoins upon the Electricity Commissions to determine tariff in the manner that allowed the generating companies and the Distribution Companies recovery of the cost of electricity in a reasonable manner and it reflects progressively the cost of supply of electricity and also reduces cross subsidies.

20. Thus, in view of the principles for tariff determination specified in Section 61 of the Electricity Act, 2003 coupled with the mandate of National Tariff Policy, it patently appears that the Commission has allowed excessive cross subsidy to the agricultural consumers which is far in excess of limit of ±20% band provided in the tariff policy. It also appears

that the Commission has not formulated the road-map for reduction of cross-subsidy in terms of the National Tariff Policy of the year 2005 and 2016 and has continued with the excessively cross subsidy to agricultural consumers.

21. Learned Counsel for the Appellant further submitted that even the subsidy granted to domestic consumers also is excessive and contrary to the provisions of National Tariff Policy. In this regard, the Learned Counsel has referred to following table contained in the written submission filed by him :-

S.No	**Particulars**	**Unit**	**2017-18**		**Source**
			APEPDCL	**APSPDCL**	
1	LT-I (Domestic) Sales	MU	5381	8460	Table 10 @ Pg 246**
2	Total CoS allocated to LT-I	Rs. Cr.	3335	5201	Table 37 @ Pg 275 & 276**
3	Per unit CoS for LT-I	Rs./kWh	6.20	6.15	(3)=(2) / (1)
4	Recovery for LT-I through tariff	Rs. Cr.	2016.88	3281.19	Table 45 @ Pg 292**
5	**Per unit revenue approved for LT-I**	Rs./kWh	**3.75**	**3.88**	**(5)=(4) / (1)**
6	**LT-I recovery as % of its CoS**	%	**60.48%**	**63.09%**	**(6)=(5) / (3)**
7	**LT-I under-recovery as % of its CoS**	**%**	39.52%	36.91%	**(6)=(5) / (3)**

22. Notably, the contents of this table have not been disputed on behalf of the Respondents. In terms of the provisions of National Tariff Policy, the Commission was duty bound to fix tariff for domestic consumers in a manner so as to ensure realization of 80% of CoS determined for said consumer category. Since the per unit CoS approved for domestic consumers of the Respondent Nos. 2 & 3 is Rs.6.20 and Rs.6.15 respectively, the per unit tariff realizable from domestic consumers of these two Discoms should have been at least 4.97 and 4.92. But the Commission has fixed per unit tariff for this consumer category as Rs.3.75 and 3.88 in respect of APEPDCL and APSPDCL respectively, thereby allowing subsidy @40% and 37% respectively, which is much in excess than the permissible 20% as per the National Tariff Policy.

23. Hence, the impugned findings of the Commission with regards to the determination of CoS for different consumer categories cannot be sustained. The same are hereby set aside. The appeal stands allowed.

24. The case is remanded back to the Commission with the directions to determine a fresh CoS for various consumer categories keeping in view the provisions of Section 61 of the Electricity Act, 2003 and the mandate of

National Tariff Policies, 2005 & 2016. The Commission shall conclude this exercise within three months from today positively.

Pronounced in the open court on this 17th day of April, 2025.

(Virender Bhat) Judicial Member	(Sandesh Kumar Sharma) Technical Member (Electricity)

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