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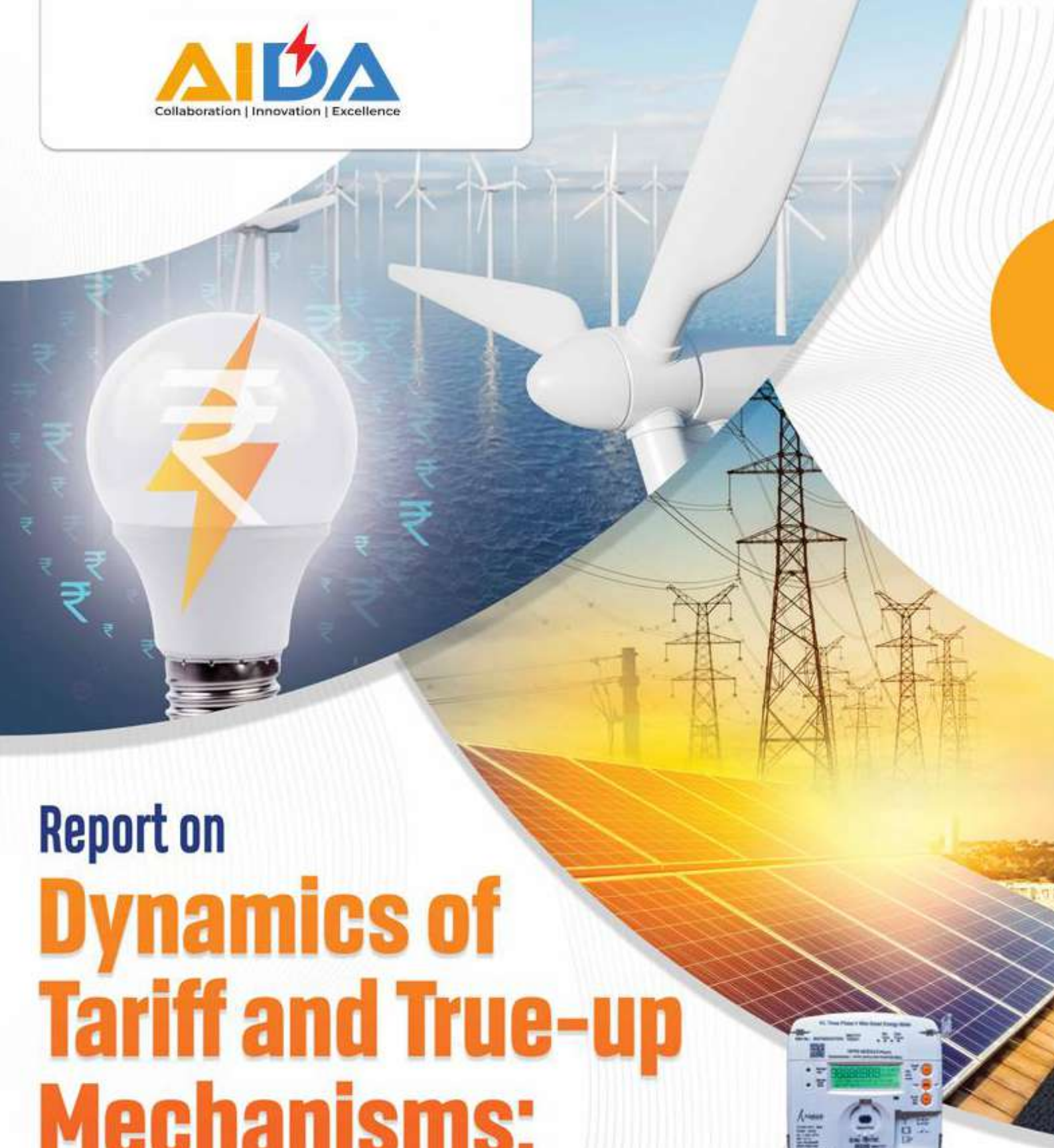

Report on
Dynamics of Tariff and True-up Mechanisms:
Insights from Tariff order and Regulations

FY 2024-25

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Dynamics of Tariff and True-up Mechanisms: Insights from Tariff order and Regulations

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List of Abbreviations

1	A&G	Administrative and General
2	ARR	Aggregate Revenue Requirement
3	AT&C	Aggregate Technical & Commercial
4	AERC	Assam Electricity Regulatory Commission
5	APDCL	Assam Power Distribution Company Limited
6	APPC	Average Power Purchase Cost
7	BESCOM	Bangalore Electricity Supply Company Limited
8	BE	Billing Efficiency
9	BRPL	BSES Rajdhani Power Limited
10	BYPL	BSES Yamuna Power Limited
11	CEA	Central Electricity Authority
12	CHESCOM	Chamundeshwari Electricity Supply Corporation Limited
13	CE	Collection Efficiency
14	Cr.	Crore
15	C&I	Commercial & Industrial
16	DBT	Direct Benefit Transfer
17	DVVNL	Dakshinanchal Vidyut Vitran Nigam Limited
18	DERC	Delhi Electricity Regulatory Commission
19	DISCOM	Distribution company
20	ERC	Electricity Regulatory Commission
21	EV	Electric Vehicle
22	FY	Financial Year
23	FPPAS	Fuel and Power Purchase Adjustment Surcharge
24	GoA	Government of Assam
25	GoI	Government of India
26	GESCOM	Gulbarga Electricity Supply Company Limited
27	HESCOM	Hubli Electricity Supply Company Limited
28	HT	High Tension
29	HV	High Voltage
30	JBVNL	Jharkhand Bijli Vitran Nigam Limited
31	JSERC	Jharkhand State Electricity Regulatory Commission
32	KESCO	Kanpur Electricity Supply Company Limited
33	KERC	Karnataka Electricity Regulatory Commission
34	LT	Low Tension
35	LT-DRAP	Long-Term Distribution Licensee Resource Adequacy Plan
36	LV	Low Voltage
37	MPERC	Madhya Pradesh Electricity Regulatory Commission
38	MPMaKVVCL	Madhya Pradesh Madhya Kshetra Vidyut Vitran Company Limited
39	MPPaKVVCL	Madhya Pradesh Paschim Kshetra Vidyut Vitran Company Limited
40	MPPoKVVCL	Madhya Pradesh Poorv Kshetra Vidyut Vitran Company Limited
41	MVVNL	Madhyanchal Vidyut Vitran Nigam Limited
42	MESCOM	Mangalore Electricity Supply Company Limited
43	MU	Million Units
44	MoP	Ministry of Power
45	MYT	Multi Year Tariff
46	NA	Not Applicable
47	O&M	Operation & Maintenance
48	OERC	Orissa Electricity Regulatory Commission
49	PaVVNL	Pashchimanchal Vidyut Vitran Nigam Limited
50	PoC	Point of Connection
51	PPA	Power Purchase Agreement
52	PuVVNL	Purvanchal Vidyut Vitran Nigam Limited
53	RA	Regulatory Assets
54	R&M	Repair and Maintenance
55	RDSS	Revamped Distribution Sector Scheme
56	Rs	Rupees
57	SERC	State Electricity Regulatory Commission
58	SLDC	State Load Dispatch Centre
59	TNERC	Tamil Nadu Electricity Regulatory Commission
60	TNPDCL	Tamil Nadu Power Distribution Company Limited
61	TPDDL	Tata Power Delhi Distribution Limited
62	UPERC	Uttar Pradesh Electricity Regulatory Commission
63	UT	Union Territory

Executive Summary

This report analyzes tariff and true-up orders issued by State Electricity Regulatory Commissions (SERCs) for Distribution Companies (DISCOMs) in India, with a focus on analyzing compliance with National tariff policy, Ministry of Power (MoP) rules and CEA norms. The study assesses how tariff mechanisms and regulatory practices affect DISCOM financial sustainability.

For the first edition of report, the study covers analysis of the parameters below for 7 DISCOMs from seven states

i. **Power purchase cost**
ii. **Regulatory Assets (RA)**
iii. **Fuel and Power Purchase Price Adjustment (FPPAS)**
iv. **Tariff Subsidy**
v. **Operation and Maintenance (O&M) norms**
vi. **Prior period adjustments and**
vii. **Cross-subsidy**

Key Observations:

- **Power Purchase Cost:** The Electricity Rules require SERCs to adopt AT&C loss trajectories aligned with the RDSS, yet most commissions continue to use distribution loss targets instead, often set below RDSS benchmarks. When actual losses exceed these approved targets, most commissions disallow excess power purchase costs, though the basis for calculating disallowance varies by state—some use the Average Power Purchase Cost, while others apply alternative methodologies. Resource Adequacy regulations have been notified in most states (except Delhi & Uttar Pradesh), typically capping short-term contracts at 10–15% for meeting resource adequacy, with allowances for exigency purchases subject to post-facto submissions within 15–45 days. However, low caps and prior-approval requirements can impede the quick decision-making needed for short-term procurement. Overall, while SERCs follow their own regulations, most do not share losses with consumers—contrary to the Electricity Rules, which envisage a 2/3:1/3 split between licensees and consumers. These practices, combined with large disallowances, materially impact ARR and weaken DISCOM financial health.

- **Regulatory Assets:** All states except Karnataka have RA regulations, and most allow carrying costs. However, across states, approved carrying cost rates are below the base LPS rate, creating a financial shortfall for DISCOMs and liquidation timelines are often undefined, risking protracted recovery periods. Most commissions are not creating new gaps, aligning with Electricity Amendment Rules 2023. RAs are generally constant or declining except in Uttar Pradesh.

- **FPPAS Mechanisms:** Five of the seven jurisdictions allow automatic FPPAS adjustments, with monthly or quarterly frequencies. Most states enable timely FPPAS recovery, but design and rigor vary. Assam and Madhya Pradesh are the most comprehensive; Tamil Nadu is the most restrictive; Uttar Pradesh follows a hybrid model with distinct caps.

- **Tariff Subsidy:** All reviewed states notify full-cost, subsidy-independent tariffs, as required, enabling governments to provide targeted support separately and improving transparency and cost reflectivity. Some states have specified category wise subsidies within tariff orders to reduce disputes; others may also follow it.

- **O&M Norms:** The importance of robust O&M benchmarks, including CEA guidelines, is underscored. The report evaluates O&M expenses relative to ARR, highlighting the need to balance adequate spending with efficiency improvements.
- **Prior-Period Adjustments:** Prior-period gains have not been explicitly adjusted in the approved ARR of the current year in any of the reviewed states. Although ARR shows no prior- period surplus adjustments, state commissions are still addressing prior-period items via true- ups, surplus pass-throughs, or pending regulatory decisions; disclosure is not always explicit in ARR lines. Assam has rationalized cross-subsidy on a Rs 911 crore surplus and reduced tariffs, offering a model other states could follow when surpluses arise.
- **Cross-Subsidy:** Cross-subsidy levels vary significantly across consumer categories. The analysis points to the need for progressive reduction of cross-subsidies and better targeting of subsidies. As a matter of policy, cross-subsidisation should be reduced to a minimum. If there is a need for subsidising particular types of use or specific categories of consumers, government may provide targeted subsidies for those purposes.

There are observable compliance gaps and inconsistent practices in tariff mechanisms, which influence DISCOM financial health. Strengthening cost-reflective tariffs, ensuring timely cost pass-throughs, and systematically reducing cross-subsidies are critical for sustainability. Closer alignment of regulations and tariff determination by SERCs/JERCs with national policies and rules is essential to support financially resilient and operationally efficient DISCOMs.

01 Chapter Introduction

The electricity distribution sector in India is fundamental to delivering reliable and affordable power to consumers while safeguarding the financial viability of Distribution Companies (DISCOMs). Central to this ecosystem are the State Electricity Regulatory Commissions (SERCs), which

a crucial role in tariff regulation and determination. Established under the Electricity Act, 2003, SERCs are independent bodies tasked with approving tariffs that reflect prudent costs, promoting efficiency, and balancing stakeholder interests. They determine the Annual Revenue Requirement (ARR), issue Multi-Year Tariff (MYT) orders, conduct true-up exercises to reconcile actuals with projections, and enforce compliance with national policies.

This regulatory oversight ensures that tariffs are cost-reflective, non-discriminatory, and aligned with operational realities, while incorporating considerations for DISCOM financial sustainability—such as allowing recovery of legitimate expenses, managing Regulatory Assets (RA) to prevent liquidity crises, incentivizing loss reduction, and facilitating timely cost pass-throughs to avert debt spirals.

However, challenges like regulatory disallowances, RA accumulation, inefficiencies in collection and billing, and inconsistencies in policy implementation continue to strain the sector. This report, Dynamics of Tariff and True up Mechanisms: Insights from Tariff Order and Regulations, offers a detailed analysis of tariff orders and true-up orders issued by SERCs, emphasizing how these mechanisms impact DISCOM sustainability.

Stemming from a collaborative meeting between the All India Discoms Association (AIDA) and the REC Ltd on June 10, 2025, this study assesses the alignment of SERC decisions with policies and rules framed by the Ministry of Power (MoP), Government of India (GoI). By scrutinizing parameters such as power purchase cost disallowances, RA treatment, FPPAS mechanism, prior- period adjustments, O&M norms, and cross-subsidy levels, the report identifies compliance gaps, trends, and observations. As an annual initiative, with the first edition of the report, it establishes a framework for ongoing monitoring and advocacy to bolster DISCOM financial health. This study has been conducted by AIDA with assistance from REC, which led the study's design and steering, under the supervision of Shri U.N. Behera, former Chairperson of the Odisha Electricity Regulatory Commission. Shri Alok Kumar, Director General, AIDA and Shri S.N. Kalita, Director (Regulatory Affairs), AIDA have contributed to design and review of study at all stages.

Background and Context

India's power sector reforms, initiated with the Electricity Act, 2003, have empowered SERCs to regulate tariffs in a transparent and accountable manner. SERCs determine tariffs through a rigorous process involving public consultations, scrutiny of DISCOM petitions, and alignment with national guidelines. Their role extends to approving power purchase agreements, setting performance standards, and conducting periodic reviews to ensure tariffs promote competition, protect consumers, and support sector growth. A key focus in tariff regulations is DISCOM financial sustainability: SERCs must consider factors like prudent cost recovery, RA creation only as a last resort (with liquidation plans), efficiency incentives for reducing AT&C losses, and mechanisms like Fuel and Power Purchase Price Adjustment (FPPPA) for volatile costs. These considerations aim to prevent financial distress, as seen in past debt accumulations exceeding INR 5 lakh crore by FY 2024-25, by enabling DISCOMs to maintain liquidity, invest in infrastructure, and meet service obligations.

The National policies, including the Tariff Policy 2016 (as amended), Electricity (Rights of Consumers) Rules 2020, and MYT Regulations, guide SERCs to prioritize cost-reflective tariffs, timely pass-throughs, and cross-subsidy reduction. Under RDSS, MoP emphasizes performance- linked funding for loss reduction and digitization, underscoring the need for sustainable tariff frameworks. Yet, variations in SERC approaches—such as differing interpretations of short-term purchase limits or O&M norms—have led to inconsistencies, amplifying challenges like delayed generator payments and subsidy dependencies. Amid evolving sector dynamics, including post- global energy crisis fuel hikes and renewable integration mandates, the analysis explores how tariff mechanisms influence DISCOM resilience and consumer affordability.

Scope of the Study

This study intends to study and analyze the tariff orders and true-up orders issued by State Electricity Regulatory Commissions (SERCs) for Distribution Companies (DISCOMs) across selected Indian states, with a primary emphasis on FY 2025-26. The core focus is on evaluating compliance with key provisions outlined in policies and rules framed by the Ministry of Power (MoP), Government of India (GoI), such as the Tariff Policy 2016, Electricity (Amendment) Rules 2022 and Multi-Year Tariff (MYT) Regulations. This includes assessing adherence to norms on:

- Power purchase cost disallowances
- Regulatory Assets (RA) management,
- Fuel and Power Purchase Price Adjustment (FPPPA) mechanisms
- Tariff Subsidy
- Operation & Maintenance (O&M) benchmarks from the Central Electricity Authority (CEA)
- Cross-subsidy limits (±20% band), and
- Efficiency trajectories for Aggregate Technical & Commercial (AT&C) losses, Collection Efficiency (CE), and Billing Efficiency (BE).

The scope is delimited to orders issued up to June 30, 2025, ensuring the analysis captures the most recent regulatory decisions.

The report intends to study and analyze the tariff orders issued by the SERCs for the distribution companies for the FY 2025-26, including the true-up order for the FY 2023-24. The report specifically focuses on the compliance of various provisions of policies and rules framed by MoP, GoI for determination of tariff by the SERCs. The ERCs and DISCOMs to be covered for this study as per the following:

- The report will cover Tariff orders issued by 7 SERCs for 7 DISCOMs, initially for this year.
- The report will cover valuable insights and relevant aspects of the True-up orders issued by 7 SERCs for 7 DISCOMs for this year.

Criteria for Selection of SERCs:

The selection criteria of SERCs are based on the following parameters:

I. SERCs should have issued Tariff Order for FY-26 and True-up Order for FY-24 up to 30th June 2025.

II. SERCs of each of the Five (5) regions (namely North, East, West, South and North-East) must be selected, with at least one Union Territory (UT).

III. SERCs have been selected in such a way that it covers both (i.e., State-owned as well as Private-owned DISCOMs)

IV. Any other exception is considered for selection of SERCs to the extent that it adds significant value to the overall outcome of this study and addresses the critical aspects of the Power Sector in the country.

a. Addresses the key issues (such as Contribution to the overall Regulatory Assets being created)

b. Covers a significant population from the regional context

Based on the criteria as highlighted above SERC from the following States have been selected covering the rationale for selection:

Table 1: Rationale for selection of States

Sr. No.	State	Name of SERC	Rationale for Selection
1	Assam	AERC	• Issued Tariff order for FY26 and True-up order for FY24 • Only public-owned utility (APDCL) in the State • Covers North-Eastern Region State/ UTs • Largest state in the region by population
2	Delhi	DERC	• Three (3) private-owned utilities in the State/ UTs • Union Territory/ National Capital Region • Covers Northern Region State/ UTs • Covers a larger section of Urban household consumers
3	Jharkhand	JSERC	• Issued Tariff order for FY26 and True-up order for FY24 • Only public-owned utility (JBVNL) in the State • Covers Eastern Region State/ UTs
4	Karnataka	KERC	• Issued Tariff order for FY26 and True-up order for FY24 • Five (5) public-owned utilities in the State • Covers Southern Region State/ UTs
5	Madhya Pradesh	MPERC	• Issued Tariff order for FY26 and True-up order for FY24 • Three (3) public-owned utilities in the State • Covers Western Region State/ UTs
6	Tamil Nadu	TNERC	• Issued Tariff order for FY26 and True-up order for FY24 • Only public-owned utility (TNPDCL) in the State • Covers Southern Region State/ UTs • Largest state in the region by population
7	Uttar Pradesh	UPERC	• Five (5) public-owned utilities in the State • Largest state in the region/ country by population

Shortlisting of DISCOMs

Post selection of SERCs, the DISCOMs have been shortlisted based on the higher ACS-ARR Gap compared to other DISCOMs in the State/ UT. Accordingly, the following DISCOMs have been shortlisted:

Table 2: Shortlisting of DISCOMs

Sr. No.	States	Name of DISCOM	ACS-ARR Gap	AT&C Losses
1	Assam	APDCL	(0.24)	14.03
2	Delhi	BRPL	(0.16)	6.58
		BYPL	(0.27)	7.84
		TPDDL	(1.19)	5.91
3	Jharkhand	JBVNL	2.76	31.17
4	Karnataka	BESCOM	0.35	10.15
		CHESCOM	0.16	9.38
		GESCOM	0.30	9.61
		HESCOM	1.00	17.92
		MESCOM	1.33	14.17
5	Madhya Pradesh	MPMaKVVCL	0.91	29.09
		MPPaKVVCL	0.00	12.33
		MPPoKVVCL	0.76	29.52
6	Tamil Nadu	TNPDCL	0.27	11.39
7	Uttar Pradesh	DVVNL	0.93	20.00
		KESCO	0.69	9.60
		MVVNL	0.51	15.53
		PaVVNL	(0.07)	14.25
		PuVVNL	1.01	17.33

Further, a more detailed overview of the selected DISCOMs is provided in Annexure I.

02 Chapter Power Purchase Cost

Introduction

Power purchase cost is the single largest component of a DISCOM's Aggregate Revenue Requirement (ARR), typically accounting for 60–80% of total costs. Even a small percentage changes in power purchase cost can materially shift overall ARR and consumer tariffs noticeably because of its large share. Hence it is very important for DISCOM and the State Electricity Regulatory Commission (SERC) both to check and control the power purchase cost in a judicious manner.

Costs are driven by generation mix, fuel prices, capacity obligations, short-term market purchases, transmission and balancing charges, and losses. Many of these are pass-through but subject to prudence checks by regulators.

The key drivers of Power Purchase Cost include:

- **Generation Mix:** Proportion of energy procured from various sources by DISCOMs.
- **Contractual obligations:** Long-term PPAs carry fixed capacity charges. Even with falling demand or consumer migration, these fixed costs persist.
- **Fuel Prices:** Depends upon the fuel linkage and market price of the fuel
- **Transmission and system charges:** Inter- and intra-state transmission charges (PoC), SLDC fees, reactive power charges.
- **Demand pattern and forecast accuracy:** Peak power requirement drives reliance on expensive peaking/ short-term power. Better forecasting reduces deviations and costly balancing
- **Renewable obligations:** Costs to meet RPOs and, increasingly, storage obligations; includes green market premiums and integration/balancing costs.
- **Short-term purchases:** Day-ahead/real-time market buys, often at higher prices during peaks or shortages.
- **Losses and efficiency:** Higher AT&C losses mean more energy bought than billed, which widens revenue gaps.

Some of the factors are beyond direct control of the discoms such as allocation of power from Central and State Generating Stations, fuel prices, transmission and system charges, demand pattern, RPOs etc., however, factors such as forecast accuracy, short-term purchases, losses and efficiency etc. can be controlled by DISCOMs and hence, the SERCs scrutinize dispatch and procurement choices, and disallow avoidable costs such as buying costlier short term power when cheaper contracted capacity is available, extra power purchase due to higher AT&C losses than approved etc.

Regulatory Framework

Electricity (Amendment) Rules, 2023 (26th Jul 2023):

> *"20. Framework for Financial Sustainability:*
>
> *(1) The Aggregate Technical and Commercial loss reduction trajectory to be approved by the State Commissions for tariff determination shall be in accordance with the trajectory agreed by the respective State Governments and approved by the Central Government under any national scheme or programme, or otherwise.*
>
> *(3) All the prudent costs of power procurement, incurred by distribution licensee for ensuring 24x7 supply of electricity to consumers under the Electricity (Rights of Consumers) Rules, 2020 and for meeting requirements as per Resource Adequacy plan prepared under the Electricity (Amendment) Rules 2022 shall be taken into account, provided that the procurement of power has been done in a transparent manner or procurement price has been approved by the Appropriate Commission"..*
>
> *(5) Gains or losses accrued to distribution licensee due to deviation from approved Aggregate Technical and Commercial loss reduction trajectory shall be quantified on the basis of Average Power Purchase Cost and shared between the distribution licensee and consumers...."*
>
> *(5) ..... Two third of the gains shall be passed on to the consumers in tariff and rest shall be retained by the distribution licensee. Two third of the losses shall be borne by the distribution licensee and rest shall be borne by the consumers."*

We have analyzed below sub-parameters impacting disallowance in the power purchase cost by SERCs:

i. Limit on short-term purchases

We have analyzed two points under these:

- Whether SERC has set any maximum limit for the short-term power purchase as a percentage of total power purchase for the year?
- What is the maximum limit for short term power purchase?

ii. Disallowances due to mismatch in the distribution loss approved and actual loss

We have analyzed two points under this:

- Does SERC disallow power purchase cost due to higher loss% than the distribution loss target approved by SERC?
- How much power purchase quantum has been disallowed?

iii. Criterion used for disallowing cost

We have analyzed two points under these:

- At what rate SERCs are calculating disallowance in power purchase cost?
- How much power purchase cost has been disallowed?

iv. Sharing of losses on account of power purchase with the consumers

Accordingly, the following key points have been analyzed:

- Whether SERCs allow sharing of loss/gain on account of power purchase with consumers?
- What is the ratio for sharing of loss/gain with consumers? Is it as per rules (2/3rd of Gain and 1/3rd of loss sharing with consumers)?

State Wise Analysis

i. Short-term purchases

Table 3: Limit on Short Term Power Purchase

Sr. No.	State	DISCOM	Short Term Power Purchase (MYT/Power purchase regulations)		Short term Contract (Resource Adequacy Regulations)	
			Is there any limit specified by SERC?	Maximum Limit	Limit applicable for	Maximum Limit
			Yes/No	%	Type of Purchase	%
1	Assam	APDCL	Yes	5%	Additional short-term power purchase	10%
2	Delhi	BRPL	No	NA	NA	No Regulation
3	Jharkhand	JBVNL	Yes	10%	Additional short term Power Purchase in six months	10%
4	Karnataka	MESCOM	No	NA	NA	15%
5	Madhya Pradesh	MPMakVVCL	No	0%	Additional short-term power purchase	15%
6	Tamil Nadu	TNPDCL	No	NA	No limit	10%
7	Uttar Pradesh	PuVVNL	Yes	5%	Additional short-term power purchase	15%*

*As per Draft Resource Adequacy regulations

Observations:

- In Assam, as per MYT regulations 2024, Additional Short term power purchase more than 5%, during any month in the year over and above the power procurement plan approved by the commission shall be only with prior approval of the Commission. Any short-term power purchase over and above 5% without prior approval of the commission shall not be allowed.
- In Delhi there is no limit on short term power purchase specified in MYT Regulations and RA Regulations is not available and hence, so limit is specified for short term contracts.
- In Jharkhand, as per JSERC Tariff Regulations 2020, if the total power purchase cost or quantum for any block of six months including such short-term power procurement exceeds
- the power purchase cost or quantum approved by the Commission for the respective block of six months by more than 10%, the Distribution Licensee shall have to obtain prior approval of the Commission

- In Karnataka, there is no limit specified for short term power purchase in MYT Regulations.
- In Madhya Pradesh, there is no limit specified for short term power purchase in MYT Regulations by the Commission, however as per Power Purchase Regulations 2023, details of any additional short-term power purchase than the approved by the commission need to be submitted within 45 days of such procurement to the Commission.
- In Tamil Nadu there is no limit specified for short term power purchase in MYT Regulations,
- In Uttar Pradesh, as per MYT Reg. 2025 Short Term power purchase can only be done through prevalent Market mechanism and any additional short term power purchase more than 5% of the total annual quantum as approved by the Commission, shall require its prior approval. Whereas as per Draft Resource Adequacy Regulations 2024, maximum limit for short term contracts to meet RAR is 15%. However, in certain conditions, DISCOM can purchase additional short-term power, but details of such purchase shall be submitted to commission within 45 days.
- Most of the states have limitations on additional short term power purchase over and above the quantum approved by the commission in tariff order. The limit is low around 5% mostly and DISCOMs need to get prior approval or submit details to Commission within a short time of 15 to 45 days duration.
- Short term power purchase requires quick decision and taking prior approval for additional purchase beyond the specified limit may delay the power purchase and hence it is not suitable for DISCOMs.
- Except Delhi and Uttar Pradesh, all states have already notified the Resource Adequacy Regulation, Uttar Pradesh has published the draft Regulations. As per these regulations, most of the states have put maximum limit on short-term contracts to meet the RAR of the DISCOMs as 10%-15%, however these regulations allow distribution licensee to procure additional short-term power in case of exigencies without any prior approval provided that the DISCOMs have to submit the details of such procurement to commission within 15 or 45 days.

ii. AT&C loss/ Distribution loss

Distribution loss% and its impact on DISCOM's approved cost has been analyzed for true-up year. For all states (except Delhi and UP), analysis has been done for FY 2024 whereas for Delhi FY 2021 and for UP FY 2023 has been considered.

Table 4: Loss% approved in RDSS and by SERC for True-up year

Sr. No.	State	Discom	As approved in RDSS (AT&C loss%)	As approved by SERC	Type of Loss approved by SERC
1	Assam	APDCL	15.8%	14.75%	Distribution Loss%
2	Delhi	BRPL	NA	8.10%	Distribution Loss%
3	Jharkhand	JBVNL	24%	13%	Distribution Loss%
4	Karnataka	MESCOM	NA	8.67%	Distribution Loss%
5	Madhya Pradesh	MPMakVVCL	26.99%	16.50%	Distribution Loss%
6	Tamil Nadu	TNPDCL	12.40%	10.41%	Distribution Loss%
7	Uttar Pradesh	PuVVNL	22.75%	10.93%	Distribution Loss%

Observations:

- The Electricity Rules require SERCs to adopt the AT&C loss trajectory for tariff setting in line with the Central Government's RDSS trajectory. However, most of the SERCs have approved only a distribution loss trajectory instead of AT&C losses.
- Most SERCs have set distribution loss targets that are lower than the corresponding AT&C loss targets for the relevant year approved under RDSS, which is not in compliance with the Electricity Rules.
- In Delhi, Commission has approved Collection efficiency of 99.50% separately as per Business Plan Regulations, 2019, however for Energy requirement calculation only distribution loss has been considered.
- In states such as Jharkhand, Madhya Pradesh, and Uttar Pradesh, the SERC-approved targets are significantly lower than the RDSS benchmarks, making them difficult to achieve for DISCOMs and may lead to substantial disallowances in power purchase quantum and costs.

Table 5: Disallowance in Power Purchase Quantum

Sr. No.	State	DISCOM	Filed by DISCOM	Approved by SERC	Disallowance due to higher Distribution loss	
			MU	MU	MU	%
1	Assam	APDCL	12,595.00	12,467.00	128.64	1.0%
2	Delhi	BRPL	11,932.80	11,933.05	-	0.0%
3	Jharkhand	JBVNL	14,539.65	11,806.94	3,308.76	22.8%
4	Karnataka	MESCOM	8,055.52	8,055.52	-	0.0%
5	Madhya Pradesh	MPMakVVCL	33,672.30	29,973.03	3,699.27	11.0%
6	Tamil Nadu	TNPDCL	82,906.00	82,029.46	-	0.0%
7	Uttar Pradesh	PuVVNL	32,863.51	30,456.11	2,407.40	7.3%

Observations:

- Four (4) states namely Assam, Jharkhand, Madhya Pradesh and Uttar Pradesh, the power purchase has been disallowed due to higher distribution loss than the approved by the Commission, in which except Assam, all the states have huge disallowance in the purchase of power. JBVNL in Jharkhand and MPMaKVVCL in Madhya Pradesh have significant share of power purchase disallowed in the total power purchase claimed.
- It is seen that actual distribution loss is invariably higher than that allowed by the regulators. While lower distribution loss is insisted upon by the regulators to put pressure on reducing it, DISCOMs are not able to achieve it. Regulators may consider this and make target more realistic and achievable.
- For Delhi and Karnataka, Distribution loss is within the approved range, hence no disallowance in the power purchase.
- For Tamil Nadu, disallowance in the power purchase is due to disallowance of SWAP power

- Most of the State Commission disallow excess power purchase due to higher distribution loss than the target approved by the Commission.
- Some states have huge share of disallowed power which will result in disallowance in ARR and will significantly impact on the financial health of the DISCOMs.

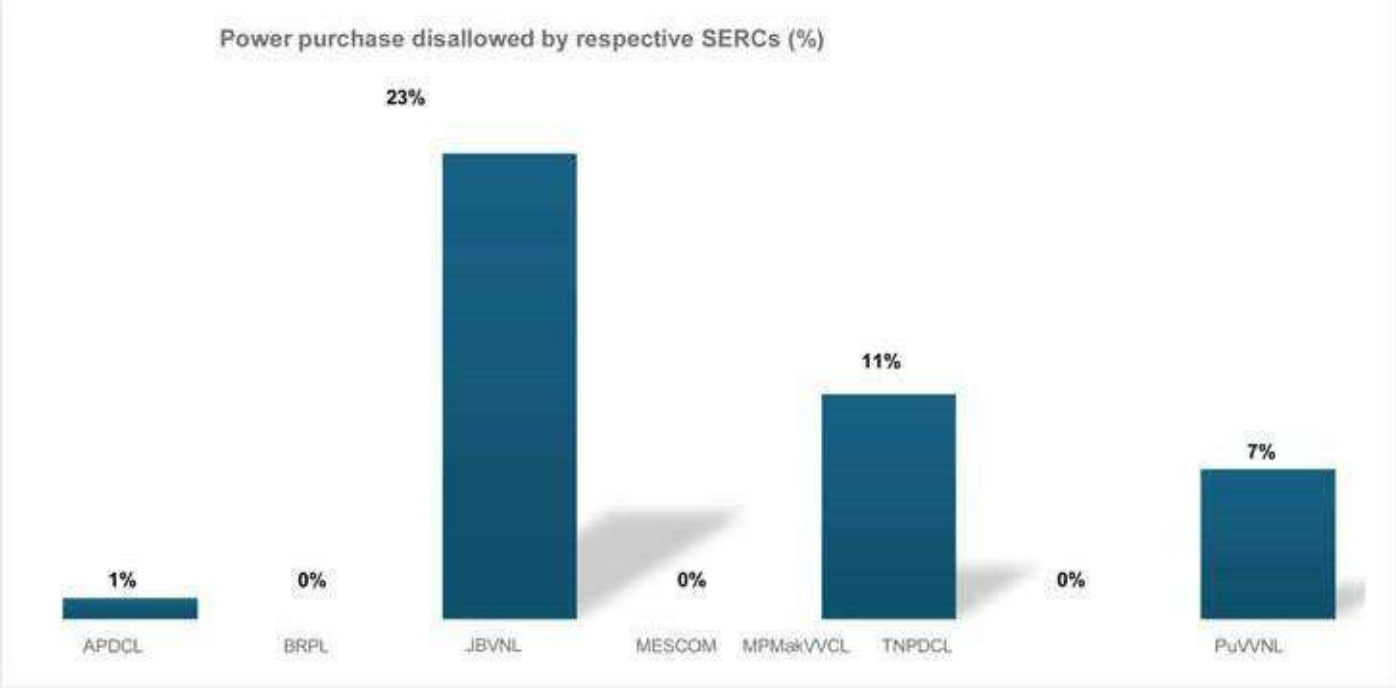

Figure 1: Power purchase disallowed vs Power Purchase claimed

iii. Rate used for disallowing power purchase cost

Table 6: Rate of Disallowance in Power Purchase

Sr. No.	State	DISCOM	Average rate for disallowance	Criterion used for rate of disallowance
			Rs./kWh	APPC/ Max. PPC/ Any other
1	Assam	APDCL	5.39	APPC
2	Delhi	BRPL	NA	NA
3	Jharkhand	JBVNL	6.88	Individual rate of the sources
4	Karnataka	MESCOM	6.65	APPC
5	Madhya Pradesh	MPMakVVCL	2.31	APPC
6	Tamil Nadu	TNPDCL	NA	NA
7	Uttar Pradesh	PuVVNL	4.39	Differential Bulk Supply Tariff (DBST)

Observations:

- 3 states namely Assam, Karnataka, Madhya Pradesh disallow power purchase cost at the rate of Average Power Purchase Cost while in Jharkhand the Commission has disallowed based on the Individual rate of the generating sources and respective transmission charges on pro rata basis.

- In Uttar Pradesh, Commission approved the Differential Bulk Supply Tariff (DBST) mechanism wherein the Commission approves DBST for each Discoms. The DBST is determined mainly because of the varied sales, Discom's efficiency, and the consumer mix. Allocation of power purchase cost among DISCOMs in Uttar Pradesh is done based on DBST.
- No mechanism has been specified for Delhi and Tamil Nadu.
- Electricity Rules directs SERCs to quantify gains or losses due to deviation from approved loss target based on Average Power Purchase Cost and share between the distribution licensee and consumers sources, however many SERCs are quantifying power purchase cost disallowed based on other rates and are not complying with the Rules.

iv. Sharing of gain/losses on account of power purchase

Table 7: Regulation for Sharing of gain/loss with consumers

Sr. No.	State	DISCOM	Regulations for Sharing of loss with Consumer			Compliance with Electricity Rules for sharing of gain/loss with consumers	Power Purchase Cost Disallowed	Sharing of Gain/ (loss) with Consumer			Deviation from SERC regulations
			Available	Sharing of loss %	Sharing of Gain %	Yes/No	Deviation from limit specified in rules	Rs. Cr.	%	Rs. Cr.	Yes/No
1	Assam	APDCL	Yes	33.3%	50%	No	Sharing of gain is lower	69.3	33%	(23.1)	No
2	Delhi	BRPL	Yes	0%	33.3%/66.6%	No	Sharing of loss and gain both are lower	0	-	-	No
3	Jharkhand	JBVNL	Yes	0%	50%	No	Sharing of loss and gain both are lower	2277.4	0%	0.0	No
4	Karnataka	MESCOM	Yes	0%	50%	No	Sharing of loss and gain both are lower	0	-	-	No
5	Madhya Pradesh	MPMakVVCL	Yes	0%	0%	No	Sharing of loss/gain is not allowed	854.5	0	0.0	No
6	Tamil Nadu	TNPDCL	Yes	0%	50%	No	Sharing of loss and gain both are lower	0	-	-	No
7	Uttar Pradesh	PuVVNL	No	-	-	No	No provisionfor sharing	1056.8	-	-	No

Observations:

- As per AERC MYT Regulations 2024, Half of the gain and one-third of the loss on account of controllable items shall be passed on to the consumer as rebate or additional charges as applicable. In compliance with this regulation, AERC has shared 1/3rd of the loss with the consumers and disallowed two thirds of the excess power purchase cost, i.e., Rs. 46.26 Crore only in the truing up for FY which will be borne by APDCL.
- As per DERC Tariff reg. 2017, Loss is on Licensee's account, however, gain due to overachievement on account of Distribution Loss target shall be shared with consumer in 2/3rd or 1/3rd ratio depending upon the actual loss level.
- As per JSERC tariff regulations 2020, Gain should be shared with consumer in 50:50 ratio, however Licensee has to bear all the loss.
- As per KERC MYT regulations 2025, Gain should be shared with consumers in 50:50 ratio however there is no mechanism for sharing in case of loss.
- As per MPERC Tariff regulations 2021, Gain or Loss on account of controllable factor shall be to the account of the Distribution Licensee except for O&M expense, hence MPERC has not shared any loss with consumers in the true-up order for FY 2023-24.However, the Commission has specified AT&C loss reduction trajectory from FY 2024- 25 to FY 2026-27 and hence, as per Regulation 20.2(b) of MYT Regulations, 2021 the gain or losses-sharing linked with the AT&C loss reduction trajectory shall be applicable from FY 2024-25 True-up onwards.
- The provisions relating to sharing of distribution loss and AT&C loss do not exist in the UPERC MYT Regulations, 2019, however, UPERC MYT Regulations 2025 provides for sharing of Gain/loss on account of variation in O&M expense and Distribution loss in tariff/ARR in the ratio of 2/3rd for gain and 1/3rd for loss which is in compliance of the Electricity rules.
- All SERCs comply with their regulation in sharing gain/loss on account of power purchase cost due to deviation from approved distribution loss target, however most of the SERCs do not allow sharing of loss with consumers and hence distribution licensee must bear all the losses, which is not in compliance with the Electricity rules as it states that 1/3rd of the losses should be shared with consumers.

03 Chapter Regulatory Assets (RA)

Introduction

A regulatory asset (RA) is the revenue gap that State Commission allows to recover from future

tariffs instead of raising tariffs immediately. It is booked as an asset but does not generate cash today for DISCOMs.

Large or persistent Regulatory Asset severely weakens DISCOM's financial health by creating current cash flow deficits, increasing short-term borrowing and interest costs, reducing credit ratings, causing delayed payments to generators that attract Late Payment Surcharge (LPS), and creating a tariff overhang for future years.

Ultimately, these deferred costs are passed on to consumers through higher future tariffs, compounded by carrying costs, making RAs detrimental to long-term consumer interests. Considering these risks and finan cial impacts, it is prudent not to create RAs and if unavoidable, they should be allowed only with carrying cost and amortized in a time-bound manner to minimize the burden on both DISCOMs and consumers.

Regulatory Framework

National Tariff Policy, 2016:

> *"8.2.2 The facility of a regulatory asset has been adopted by some Regulatory Commissions in the past to limit tariff impact in a particular year. This should be done only as a very rare exception in case of natural calamity or force majeure conditions and subject to the following:*
>
> *a. Under business as usual conditions, no creation of Regulatory Assets shall be allowed;*
>
> *b. Recovery of outstanding Regulatory Assets along with carrying cost of Regulatory Assets should be time bound and within a period not exceeding seven years. The State Commission may specify the trajectory for the same."*

Electricity (Amendment) Rules, 2024 dt. 10th Jan 2024 says:

> *"23. Gap between approved Annual Revenue Requirement and estimated annual revenue from approved tariff - The tariff shall be cost reflective and there shall not be any gap between approved Annual Revenue Requirement and estimated annual revenue from approved tariff except under natural calamity conditions:*
>
> *Provided that such gap, created if any, shall not be more than three percent of the approved Annual Revenue Requirement:*
>
> *Provided further that such gap along with the carrying costs at the base rate of Late Payment Surcharge as specified in the Electricity (Late Payment Surcharge and Related Matters) Rules, 2022, as amended from time to time shall be liquidated in maximum three numbers of equal yearly installments from the next financial year:*
>
> *Provided also that any gap between approved Annual Revenue Requirement and estimated annual revenue from approved tariff existing on the date of notification of these rules, along with the carrying costs at the*

base rate of Late Payment Surcharge as specified in the Electricity (Late Payment Surcharge and Related Matters) Rules, 2022, as amended from time to time shall be liquidated in maximum seven numbers of equal yearly installments starting from the next financial year."

Also, as per Electricity (LPS and Related matters) Rules, 2022 dt. 3rd Jun 2022:

"(c) "base rate of Late Payment Surcharge" means the marginal cost of funds based on lending rate for one year of the State Bank of India, as applicable on the 1st April of the financial year in which the period lies, plus five per. cent and in the absence of marginal cost of funds based lending rate, any other arrangement that substitutes it, which the Central Government may, by notification, in the Official Gazette, specify:

Provided that if the period of default lies in two or more financial years, the base rate of Late Payment Surcharge shall be calculated separately for the periods falling in different years."

Considering above rules and policy, relevant regulations for RA by SERCs and tariff & true up orders has been analyzed under three sub-parameters covered under this parameter:

i. Regulatory Assets and carrying cost: three points shall be considered under this-
- Whether carrying cost is allowed on the RA?
- What is the rate of interest allowed for carrying cost calculation? Is it equal to Base rate for late payment surcharge?
- Liquidation timeline for RA

ii. The gap in average cost of Supply and the actual revenue realized (Total and Per unit)

iii. Quantum of RA and individual trend (increases or decreases) in current year.

State wise analysis

i. Regulatory assets and carrying cost

Table 8: Regulations for Regulatory Asset

Sr. No.	State	DISCOM	As per SERC Regulation				Deviation of rate of interest from Electricity Rules
			Regulations for Regulatory asset	Is carrying cost allowed	Rate of interest for carrying cost	Liquidation timeline for RA	
			Yes/No	Yes/No	Formula or %	Years	
1	Assam	APDCL	Yes	Yes	SBI 1-year MCLR + 350 basis point	-	Lower by 150 basis point
2	Delhi	BRPL	Yes	Yes	Rate as approved by the commission in the ARR of relevant FY	-	Not fixed
3	Jharkhand	JBVNL	Yes	Yes	SBI 1-year MCLR + 350 basis point		Lower by 150 basis point
4	Karnataka	MESCOM	No	NA	NA	NA	NA
5	Madhya Pradesh	MPMakVVCL	Yes	Yes	SBI 1-year MCLR + 350 basis point	-	Lower by 150 basis point
6	Tamil Nadu	TNPDCL	Yes	No	NA	3	NA
7	Uttar Pradesh	PuVVNL	Yes	Yes	SBI 1-year MCLR + 200 basis point	-	Lower by 300 basis point

Observations:

- All states except Karnataka have regulations in place for RA and out of these 6 states having regulations for RA, 5 states allow carrying cost on RA except Tamil Nadu.
- Except Delhi, rate of interest for carrying cost in all states is linked to SBI MCLR whereas in Delhi it will be decided by the Commission in the ARR tariff order and hence this rate for Delhi is not available for financial years after the notification of Electricity Amendment Rules 2024.
- Rate for Carrying costs in all states is less than the 'base rate of Late Payment Surcharges' which effectively means DISCOMs have to bear the difference between the base rate of LPS and rate of carrying cost, resulting in financial loss for DISCOMs.
- No state except Tamil Nadu has defined timeline for liquidation of Regulatory assets, which may result in longer recovery period and compounding interest. As per rules the liquidation of RA should be within a specified timeline of no more than 7 years for existing RA and 3 years for new RA.
- 4 states-Jharkhand, Karnataka, Tamil Nadu and Uttar Pradesh have not allowed carrying cost on Gap, although regulation exist for carrying cost in Jharkhand and Uttar Pradesh.
- In Jharkhand, the Commission is not allowing the carrying cost for FY 2023-24, 2024-25 and 2025-26 as per clause 7.4 of JSERC Distribution Tariff Regulations 2020, as the Petitioner failed to submit the petition as per the timelines stipulated in the regulation.
- In Uttar Pradesh, as the matter of the Regulatory adjustment is pending with APTEL, the final treatment of the same will depend upon the outcome of these proceedings.
- In Tamil Nadu, The Government of Tamil Nadu (GoTN) vide G.O. (Ms) No. 38 dt. August 18, 2021, has agreed to take over 100% losses of TNPDCL from FY 2021-22 onwards under GSDP norms of Government of India. As per the norms and under UDAY scheme, losses have been taken over by GoTN in a year-wise manner. Therefore, the Revenue Gap for FY 2023-24 is not considered as new Regulatory Asset by the Commission and hence no carrying cost is allowed.

Table 9: Carrying cost allowed on RA after True-Up

Sr. No.	State	DISCOM	Gap after True-up of FY 2024	Carrying cost allowed on Gap
			Rs. Cr.	Yes/No
1	Assam	APDCL	219.9	Yes
2	Delhi	BRPL	12,993.5	Yes
3	Jharkhand	JBVNL	4,258.0	No
4	Karnataka	MESCOM	359.5	No
5	Madhya Pradesh	MPMakVVCL	1,037.9	Yes
6	Tamil Nadu	TNPDCL	6,922.0	No
7	Uttar Pradesh	PuVVNL	-484.9	No

Note: For Delhi and Uttar Pradesh, above details are as per latest available Tariff Order (i.e., for BRPL as per Tariff Order for FY 2021-22, while for Uttar Pradesh as per Tariff Order for FY 2024-25)

ii. ACS-ARR Gap and trend of RA in ARR

Table 10: ACS-ARR Gap (Total and Per unit) and trend of RA

Sr. No.	State	DISCOM	ACoS	ABR	Approved ARR	Estimated revenue from approved tariff incl. subsidy	Gap/ (Surplus) created in ARR	Opening Gap for current year	Closing Gap for current year	Is RA decreasing?
			Rs./kWh	Rs./kWh	Rs. Cr.	Rs. Cr.	Rs. Cr.	Rs. Cr.	Rs. Cr.	Yes/No
1	Assam	APDCL	8.72	9.47	10,638	11,549	(911)	0	0	Yes
2	Delhi	BRPL	7.62	7.64	9,424	9,441	(18)	3,249	2,932	Yes
3	Jharkhand	JBVNL	5.40	6.20	8,981	10,322	(1,342)	3,317	1,975	Yes
4	Karnataka	MESCOM	8.65	8.65	5,846	5,846	0	0	0	NA
5	Madhya Pradesh	MPMakVVCL	10.00	10.00	18,920	18,920	0	0	0	NA
6	Tamil Nadu	TNPDCL	8.54	8.87	83,608	86,897	(3,289)	-	-	NA
7	Uttar Pradesh	PuVVNL	7.79	7.37	22,735	21,504	1,231	2,011	3,532	No

Note: For Delhi and Uttar Pradesh, above details are as per latest available Tariff Order (i.e., for BRPL as per Tariff Order for FY 2021-22, while for Uttar Pradesh as per Tariff Order for FY 2024-25)

Observations:

- All states except Uttar Pradesh have either surplus or zero Revenue Gap in ARR.
- For Uttar Pradesh, as the matter of the Regulatory adjustment is sub-judice along with various tariff Orders in Hon'ble APTEL, the final treatment of the RA will depend upon the outcome of these proceedings.
- Most of the State Commissions are not creating any new revenue gap and are complying with the Rule 23 of Electricity (Amendment) Rules, 2024 dt. 10th Jan 2024.
- All states have either constant or decreasing regulatory assets except Uttar Pradesh. This shows that most of the State Commissions are taking measures to reduce RAs, and no new RAs have been created in current year's tariff order. Other SERCs should also not create any new RA and existing RA with carrying costs should be liquidated within a specified timeline in compliance with the Electricity Rules.

04 Chapter Fuel and Power Purchase Adjustment

Introduction

The Fuel and Power Purchase Adjustment Surcharge (FPPAS) is a dynamic cost recovery mechanism designed to help DISCOMs manage fluctuations in fuel and power procurement costs. These variations, often driven by unpredictable changes in coal, gas prices, and transmission charges, are not fully accounted for during the initial tariff determination. FPPAS enables periodic adjustments, ensuring that tariffs remain aligned with actual supply costs.

By enabling timely recovery of variations in fuel procurement and power purchase costs—without waiting for annual tariff revisions, eases working capital pressures, supports liquidity, and reduces reliance on regulatory assets or government subsidies. The mechanism limits the accumulation of unrecovered costs and associated carrying charges, thereby mitigating future tariff inflation. It provides a regulatory oversight and maintains transparency through approval and monitoring by SERCs, ensuring fairness in implementation. By aligning consumer charges with actual supply costs, FPPAS advances tariff rationalization, efficiency, and accountability.

Furthermore, the Electricity (Amendment) Rules, 2022, introduced Rule 14 of the Electricity (Amendment) Rules, 2022, to standardize the FPPAS recovery across states, mandating automatic monthly calculation and billing of FPPAS by DISCOMS to consumers, reducing the need for individual regulatory approvals for every adjustment.

Regulatory Framework

The regulatory foundation for timely pass-through of fuel and power purchase cost variations is firmly established in national policy and rules. The National Tariff Policy, 2016, drawing on Sections 61 and 62 of the Electricity Act, 2003, requires the Appropriate Commission to safeguard consumer interests while ensuring reasonable recovery of costs, and to specify a monthly or quarterly price-adjustment mechanism for prudent cost recovery. This mandate is reinforced by the Electricity (Amendment) Rules, 2022, which compel the Appropriate Commission to notify a formula within ninety days for automatic monthly adjustment of fuel and power purchase cost variations in consumer tariffs, subject to annual true-up, with an interim methodology provided in Schedule II. The relevant provisions are reproduced below.

National Tariff Policy, 2016:

> *"8.2 Framework for revenue requirements and costs*
> *8.2.1 The following aspects would need to be considered in determining tariffs:*
> *(7) Section 61 of the Act mandates that the Appropriate Commission, while determining tariff, shall not only ensure safeguarding of consumer's interests but also the recovery of the cost of electricity in a reasonable manner. Section 62 of the Act further provides for periodic tariff adjustment during a year to take care of the variation in fuel price, as may be specified.*
>
> *Therefore, the Appropriate Commission shall specify an appropriate price adjustment formula for recovery of the costs, arising on account of the variation in the price of fuel, power purchase etc. on monthly/quarterly basis for recovery of all prudent costs of the generating company and the licensee."*

Electricity (Amendment) Rules, 2022 dt. 29th Dec 2022:

> *"14. Timely recovery of power purchase costs by distribution licensee.-The Appropriate Commission shall within ninety days of publication of these rules, specify a price adjustment formula for recovery of the costs, arising on account of the variation in the price of fuel, or power purchase costs and the impact in the cost due to such variation shall be automatically passed through in the consumer tariff, on a monthly basis, using this formula and such monthly automatic adjustment shall be trued up on annual basis by the Appropriate Commission:*
> *Provided that till such a methodology and formula is specified by the Appropriate Commission, the methodology and formula specified in the Schedule - II annexed to these rules shall be applicable:"*

State wise analysis

The automatic pass-through of FPPAS enables DISCOMs to adjust monthly tariffs without prior SERC approval, ensuring swift cost recovery and compliance with MoP's emphasis on liquidity. Rule 14 requires this for variations ≤5%, with provisions for higher increments via true-up. The extent and compliance by state, based on regulations issued by the respective SERC is provided below:

- **Assam:** AERC has established a comprehensive FPPAS framework with consumer-friendly provisions. It permits automatic monthly adjustments and follows the computation formula prescribed under Rule 14 of Electricity (Amendment) Rules, 2022 dt. 29th Dec 2022. A distinctive feature is the provision for complete true-up by June 30th of the financial year, ensuring timely reconciliation of variations. The regulatory framework allows for automatic recovery of FPPAS amounts below 5% of tariff without additional approval, streamlining the adjustment process. AERC has incorporated allowances for carrying costs and permits automatic pass-through of these costs to consumers.
- **Delhi:** Delhi's regulatory framework adopts a quarterly adjustment mechanism, differentiating it from states with monthly provisions. The Commission permits automatic adjustments and adheres to Rule 14 computation formulas. However, yet to mandate complete true-up by June 30th, providing more flexibility in reconciliation timelines. The framework allows automatic recovery for FPPAS below 5% of tariff and includes provisions for carrying cost allowances with automatic pass-through.
- **Jharkhand:** The regulatory framework for the State of Jharkhand implements monthly automatic adjustments aligned with Rule 14 computation methodologies. A notable regulatory requirement mandates that any true-up for a financial year must be completed within 120 days from the Commission's acceptance of the petition, ensuring expedited reconciliation. The automatic recovery for surcharges below 5% has been permitted and includes carrying cost provisions with automatic pass-through mechanisms.
- **Karnataka:** While automatic monthly adjustments are permitted by Karnataka, the Commission does not follow the Rule 14 computation formula. The framework lacks provisions for mandatory true-up by specific deadlines, automatic recovery below 5% thresholds, and carrying cost allowances. Consequently, automatic pass-through of carrying costs is also not permitted. Notably, Karnataka has not established any capping mechanism for FPPAS, providing the Commission with greater discretionary authority in surcharge determination.
- **Madhya Pradesh:** Madhya Pradesh maintains a robust FPPAS regulatory framework with comprehensive provisions. The state permits automatic monthly adjustments based on Rule 14 computation formulas and mandated complete true-up by June 30th annually, ensuring timely variance reconciliation. The regulatory framework includes provisions for automatic recovery below 5% thresholds, carrying cost allowances, and automatic pass-through mechanisms.

- **Tamil Nadu:** The state does not permit automatic adjustments, requiring explicit regulatory approval for each adjustment. The adjustments are processed quarterly rather than monthly, potentially leading to larger variance accumulations. The framework does not incorporate Rule 14 computation formulas, mandatory true-up provisions, or automatic recovery mechanisms. The carrying cost allowances and automatic pass-through provisions are yet to be implemented, and no capping mechanism has been established.
- **Uttar Pradesh:** The state presents a hybrid regulatory approach while automatic monthly adjustments are permitted but diverges from Rule 14 computation formulas. The framework does not mandate complete true-up by June 30th or provide for automatic recovery below 5% thresholds. However, it uniquely includes carrying cost allowances despite not permitting automatic pass-through. The capping mechanism is notably flexible, set at ±10% of the applicable rate (net of regulatory discounts approved by UPERC), with provisions for alternative ceilings as may be stipulated by the Commission.

Observations:

Automatic Adjustment Mechanisms: Five out of seven jurisdictions—Assam, Delhi, Jharkhand, Karnataka, and Madhya Pradesh—permit automatic FPPAS adjustments, while Tamil Nadu does not allow such provisions. Uttar Pradesh allows automatic adjustments but operates under distinct regulatory constraints (i.e., +/-10% of net of regulatory discount rate approved by UPERC or such other ceiling as may be stipulated). This indicates a general regulatory preference toward enabling timely cost recovery mechanisms for distribution companies.

Adjustment Frequency: Monthly adjustment is the predominant frequency, adopted by Assam, Jharkhand, Karnataka, Madhya Pradesh, and Uttar Pradesh. Delhi and Tamil Nadu follow quarterly adjustments, potentially to balance administrative efficiency with consumer impact considerations.

Computation Formulas: Four states—Assam, Delhi, Jharkhand, and Madhya Pradesh—have computation formulas aligned with Rule 14, providing standardized methodologies for FPPAS calculation. Notably, Karnataka and Tamil Nadu lack such formalized computation frameworks.

True-up Provisions: Regarding complete true-up provisions by June 30th, only Assam and Madhya Pradesh provide explicit provisions, with Jharkhand offering conditional allowances (subject to 120-day petition timelines). Delhi, Karnataka, Tamil Nadu, and Uttar Pradesh have not yet incorporated this provision.

Recovery and Carrying Cost Provisions: Automatic recovery of FPPAS below 5% is permitted in Assam, Delhi, Jharkhand, and Madhya Pradesh, establishing threshold-based mechanisms for expedited cost recovery. Similarly, allowances for carrying costs and their automatic pass-through are granted in these four states, enabling utilities to recover financing costs associated with delayed recoveries. Karnataka, Tamil Nadu, and Uttar Pradesh demonstrate more restrictive approaches in these areas.

Capping Mechanisms: Capping provisions vary considerably. Five jurisdictions reference Rule 14 for capping guidelines, providing regulatory certainty. Karnataka and Tamil Nadu have not specified such capping, while Uttar Pradesh employs a distinctive formula-based approach: ±10% of the Rate (net of regulatory discount, approved by UPERC), offering flexibility within defined boundaries.

05 Chapter Tariff Subsidy

Introduction

Subsidies in electricity tariffs serve as a vital mechanism to make power affordable for vulnerable consumer segments, such as low-income households, agricultural users, and small industries, while addressing social equity and economic development goals. In tariff determination, as per Section 65 of electricity act 2003 establishes the legal framework for tariff subsidies provided by State Governments.

Subsidies typically involve state governments committing funds to bridge the gap between the full cost-reflective tariff (determined by SERCs based on DISCOM costs) and the subsidized rate charged to eligible consumers. Generally, the subsidy will only be operative if the State Government makes this advance payment. If the payment is not made, the tariff fixed by the Commission remains applicable, and the subsidy directive does not take effect. The burden of subsidies lies with the State Government, not the electricity provider.

This role is crucial in India's power sector, where subsidies mitigate the financial burden on end- users, support rural electrification, and align with national priorities like food security through agricultural pumping subsidies. However, over-reliance on subsidies can distort market signals, delay cost recovery for DISCOMs, and lead to fiscal strains if payments are delayed, contributing to accumulated dues exceeding INR 1 lakh crore as of FY 2024-25.

The Tariff Policy 2016, framed under Section 3 of the Electricity Act, 2003, mandates specific requirements for subsidy handling to ensure transparency and efficiency. Section 8.3 of the policy stipulates that SERCs must notify a tariff schedule without considering subsidies, reflecting the full cost of supply. Subsidies, if any, should be provided directly by the state government to consumers or DISCOMs in advance, preferably through direct benefit transfers (DBT), to avoid burdening DISCOM finances. This provision aims to promote cost-reflective tariffs, reduce cross- subsidies (limited to ±20% of average cost), and ensure timely subsidy disbursal under Section 65 of the Act, which prohibits tariff adjustments based on unsubstantiated subsidy promises.

Regulatory Framework and Key Provisions

"Section 65. (Provision of subsidy by State Government):

> *If the State Government requires the grant of any subsidy to any consumer or class of consumers in the tariff determined by the State Commission under section 62, the State Government shall, notwithstanding any direction which may be given under section 108, pay, in advance and in such manner as may be specified, the amount to compensate the person affected by the grant of subsidy in the manner the State Commission may direct, as a condition for the licence or any other person concerned to implement the subsidy provided for by the State Government: Provided that no such direction of the State Government shall be operative if the payment is not made in accordance with the provisions contained in this section and the tariff fixed by State Commission shall be applicable from the date of issue of orders by the Commission in this regard."*

National Tariff Policy, 2016:

8.2 Framework for revenue requirements and costs

8.2.1 The following aspects would need to be considered in determining tariffs:

(3) Section 65 of the Act provides that no direction of the State Government regarding grant of subsidy to consumers in the tariff determined by the State Commission shall be operative if the payment on account of subsidy as decided by the State Commission is not made to the utilities and the tariff fixed by the State Commission shall be applicable from the date of issue of orders by the Commission in this regard. The State Commissions should ensure compliance of this provision of law to ensure financial viability of the utilities. To ensure implementation of the provision of the law, the State Commission should determine the tariff initially, without considering the subsidy commitment by the State Government and subsidized tariff shall be arrived at thereafter considering the subsidy by the State Government for the respective categories of consumers."

State wise analysis

Compliance with the MoP Tariff Policy's requirement for subsidy-independent tariff schedules varies across states, as analyzed from tariff orders issued up to June 30, 2025, for FY 2025-26 (including true-ups for FY 2023-24). SERCs are obligated to determine and notify full cost tariffs without factoring in subsidies, allowing governments to provide targeted support separately. This ensures transparency, prevents revenue shortfalls, and aligns with cost-reflective principles. The State-wise compliance status is highlighted below:

- **Assam:** Compliant, with category-wise full cost tariffs notified without subsidy. AERC has approved tariffs excluding subsidies, and the Government of Assam (GoA) provides category- wise subsidies under Section 65 of the Electricity Act, 2003. However, post-notification adjustments require GoA intimation, indicating structured but conditional implementation.
- **Delhi:** Compliant in determining full cost tariffs, but subsidies are provided to certain consumer classes upon government request if justified. DERC aligns with the National Tariff Policy's provision, allowing state subsidies for deserving consumers.
- **Jharkhand:** Compliant with full cost tariffs notified, but JSERC permits government subsidies for justified classes, per policy provisions.
- **Karnataka:** Compliant, with tariffs determined without subsidies. The Karnataka Electricity Regulatory Commission (KERC) provides tariffs for individual categories separately, but no summary sheet for subsidies, indicating ad-hoc handling.
- **Madhya Pradesh:** Compliant in notifying full cost tariffs. The Madhya Pradesh Electricity Regulatory Commission (MPERC) approves tariffs excluding subsidies, with summaries provided for categories, though not all applicable consumers receive them uniformly.
- **Tamil Nadu:** Compliant, with category-wise full cost tariffs specified without subsidies. TNERC has notified subsidies for FY 2026 per Government of Tamil Nadu (GoTN) orders, but petitioners have not proposed tariffs excluding subsidies, leading to partial alignment.
- **Uttar Pradesh:** Compliant, with tariffs approved excluding subsidies and annexed in the rate schedule.

The table below compares subsidy compliance and dependence across states, based on latest available tariff orders:

Table 11: Full cost tariff and subsidy status across states

Sr. No.	DISCOM	Full Cost Tariff Without Subsidy	Subsidy mentioned in tariff (for all applicable category)
		(Yes/No)	(Yes/No)
1	APDCL	Yes	Yes
2	BRPL	Yes	No
3	JBVNL	Yes	No
4	MESCOM	Yes	No
5	MPMakVVCL	Yes	No
6	TNPDCL	Yes	No
7	PuVVNL	Yes	Yes

Observations:

- **Compliance with Notification:** All states notify full cost tariffs without subsidies, aligning with Tariff Policy.
- **Revenue and Fiscal Risks:** Assam, Tamil Nadu, Uttar Pradesh has high subsidy component as part of Revenue which exposes DISCOMs to risk due to delays, contributing to national dues. While states like Jharkhand and Karnataka face lesser risks as subsidy component is low.
- Best practices include Assam and Uttar Pradesh's provision of specifying subsidies in their Tariff Order, reducing disputes, and Delhi's justification-based approach for equity. States like Tamil Nadu lag in these and may adopt models from Assam/UP/Delhi for better compliance.
- As tariff subsidies are given by the government and not by the regulators, Governments should have their policy on subsidising tariff on agricultural use, EV charging, MSME promotion, consumption by small domestic consumers, etc. and accordingly publish it for public.

06 Chapter Operation & Maintenance (O&M) Norms

Introduction

Operation and Maintenance (O&M) norms are essential regulatory benchmarks that govern the allowable expenses for Distribution Companies (DISCOMs) in maintaining their infrastructure, ensuring reliable power supply, and optimizing operational efficiency. These norms, typically categorized into Employee Expenses, Repair and Maintenance (R&M) Expenses, and Administrative and General (A&G) Expenses, play a critical role in controlling costs while promoting accountability and performance improvements.

Regulatory Framework and Key Provisions

The Central Electricity Authority (CEA) issued the "Guidelines for Benchmarking of Operation & Maintenance (O&M) Norms for Distribution Utilities" on January 30, 2025, to standardize these norms across India. CEA recommend categorizing O&M expenses into the three heads (Employee, R&M, A&G), applying normative controls linked to operational metrics, and incorporating efficiency incentives like gain/ loss sharing. The relevant extract of recommendations has been provided for reference:

> *"8.6.1 Standardization of list of expenses under different heads as explained above, there is no uniformity across DISCOMs in booking of expenditure under different heads namely Employee Expenses, Repair & Maintenance Expenses and Administrative & General Expenses. Generally, difference in treatment of following expenses have been observed:*
>
> *-*
>
> *Outsourced employees: The expenses for outsourced employees are booked by various DISCOMs either under Employee expenses or under A&G expenses. Considering that expenses for outsourced employees are in nature of employee expenses, it is recommended that the expenses for outsourced employees should be booked under Employee Expenses.*
>
> *Training & Development Expenses: There is need for adequate funds for training and development activities of the employee at all level so as to meet the new challenges in the sector. The training and development expenses may be booked under employees expenses. Accordingly, suggested list of expenditure under different heads of O&M expenses could be as under:-*

Employee Expenses	Administrative and General (A&G) Expense	Repair and Maintenance Expense
1) Basic Salary 2) Expenditure towards Contract of Service (Outsourced Employees) 3) Dearness Allowances (DA) 4) House Rent Allowances (HRA) 5) Conveyance Allowances	1) Building Rent Rates & Taxes 2) Insurance 3) Telephone & Postage, etc. 4) Legal Charges, License fees, Petition filing fees & Audit Fees 5) Professional, Consultancy, & Technical Fees	1) Plant & Machinery maintenance expenses 2) Lines & Cable Network maintenance

Employee Expenses	Administrative and General (A&G) Expense	Repair and Maintenance Expense
6) Leave Travel Allowances 7) Earned Leave Encashment 8) Medical Reimbursement/Expense s/ Employee insurance expenses 9) Overtime Payment 10) Bonus/Ex-gratia Payment 11) Staff Welfare Expenses 12) Training and development Expenses 13) Payment under Workmen's Compensation Act 14) Provident Fund Contribution 15) Pension Payments 16) Gratuity Payments 17) Employee related insurance expenses 18) Other Allowances & Payments	6) Fees and Subscription 7) Printing, Stationary & Advertisement Expenses 8) Conveyance & Travel 9) Electricity & Water Charges 10) Safety & Security Expenses 11) Vehicle Running & Hiring Expenses 12) Expenditure of meetings / conference 13) Commissioning and Collection Charges 14) Expenses for contract for Service 15) Other Administrative Expenses 16) Other Scheme Expenses 17) Expenses on Building/Civil works / Hydraulic works/ vehicles.	

8.6.2 Expenses incurred by DISCOMs under TOTEX model: Nowadays, smart metering installation is under implementation under TOTEX mode. Further, IT and OT services are also being hosted on cloud instead of 'On premise Servers' with monthly service charges instead of CAPEX expenses. Other expenses related to customer care center, cloud storage, demand forecasting, GIS mapping, Network analysis, annual technical support for SAP/HANA/Oracle software license, station monitoring system, Annual technical supports of SAP software Licensees, Vehicle tracking Systems, Radio Frequency Data Concentrator Unit (RF DCU), etc. may also be in the nature of TOTEX. It is recommended that expenditure on TOTEX/ OPEX scheme shall be treated as separate head under ARR calculation and shall be reimbursed as per actual expenditure after prudence checked by concerned regulatory commission. As TOTEX expenses include OPEX expenses also, it should be ensured that no part of expenses claimed under TOTEX are claimed under O&M expenses.

..

8.6.4 Sharing of gains and losses: It is recommended that any gain or loss on account of difference between actual O&M expenses and expenses approved by the regulator during truing up may be shared with the consumers In line with the provisions in the Electricity (Second Amendment) Rules, 2023,. Accordingly, it is recommended that two third of the gains shall be passed on to the consumers in tariff and rest shall be retained by the distribution licensee and two third of the losses shall be borne by the distribution licensee and rest shall be borne by the consumers."

The guidelines aim to enhance reliability, reduce Aggregate Technical & Commercial (AT&C) losses, and align with schemes like the Revamped Distribution Sector Scheme (RDSS), ultimately supporting cost-reflective tariffs under the Tariff Policy 2016. These guidelines (effective from FY 2025-26 onward) provide SERCs with a framework to harmonize norms, though adoption varies, impacting sector-wide efficiency.

State wise analysis

The CEA guidelines advocate for normative O&M norms that are controllable, benchmarked against industry standards, and categorized into Employee Expenses (e.g., salaries, pensions), R&M Expenses (e.g., upkeep of substations, lines), and A&G Expenses (e.g., administrative costs, legal fees). They stress alignment with preventive maintenance schedules, efficiency-linked incentives (e.g., sharing gains/losses with consumers), and treating special schemes (e.g., RDSS-funded projects) separately to avoid inflating base norms. Compliance is assessed based on whether SERC-approved norms in tariff orders for FY 2025-26 (including true-ups for FY 2023- 24) specify controllable limits, adhere to these categories, and incorporate justifications for deviations.

O&M Cost & ARR

O&M expenses constitute a major component of the Annual Revenue Requirement (ARR) for utilities, making a balanced approach essential. Underfunding can lead to asset deterioration and service disruptions, while overfunding increases tariffs and burdens consumers. Adequate allocation ensures timely maintenance, repairs, and operational efficiency, directly impacting reliability and safety. Regulators require utilities to justify O&M costs based on prudence and efficiency norms, and alignment with these benchmarks helps avoid disallowances during tariff determination. Proper O&M spending extends asset life and reduces long-term capital costs, whereas neglect can cause premature failures and expensive replacements. Excessive O&M inflates ARR and affects affordability, so balanced spending supports fair pricing and operational needs. Additionally, many regulatory frameworks link O&M efficiency to performance incentives, making it critical for achieving reliability targets such as SAIDI and SAIFI.

The details of O&M Cost vis-a-vis ARR are as follows:

Table 12: O&M expenses of DISCOMs

Sr. No.	State	FY	DISCOM	ARR (INR Cr.)	O&M Cost (INR Cr.)	O&M %age w.r.t ARR	R&M		A&G		Employee Expense	
							INR Cr.	%age w.r.t O&M	INR Cr.	%age w.r.t O&M	INR Cr.	%age w.r.t O&M
1	Assam	2025-26	APDCL	10,407	1,411	14%	263.19	19%	228.54	16%	918.96	65%
2	Delhi	2021-22	BRPL	9,424	1,201	13%	1,200.87	100%	Data Not Available			
3	Jharkhand	2025-26	JBVNL	8,981	780	9%	371.76	48%	127.45	16%	280.33	36%
4	Karnataka	2025-26	MESCOM	5,846	1,027	18%	Not Available					
5	Madhya Pradesh	2025-26	MPMakVVCL	18,920	1,910	10%	342.75	18%	156.69	8%	1,313.50	69%
6	Tamil Nadu	2025-26	TNPDCL	83,608	12,060	14%	Not Available					
7	Uttar Pradesh	2024-25	PuVVNL	22,735	2,129	9%	923.17	43%	227.50	11%	978.79	46%

Observations:

- **Prevalent Gaps in Normative Controls:** Only 3 states (Delhi, Jharkhand, Madhya Pradesh) show partial to full alignment across all heads, with 4 States (Assam, Karnataka, Tamil Nadu, Uttar Pradesh) deviated due to unspecified or actual-based allowances, contravening CEA's benchmarking emphasis.
- **Lack of Incentives and Separation:** No state treats special schemes like RDSS separately, and only Delhi and Jharkhand share gains/ losses with consumers, missing CEA's efficiency incentives and risking O&M cost overruns.
- **Regional Disparities:** States like Delhi, Madhya Pradesh fare better (partial alignment) than Assam, Tamil Nadu—deviated, highlighting adoption delays post-January 2025 guidelines.
- SERCs should mandate CEA-aligned norms in MYT regulations, incorporate gain-sharing, and separate schemes. MoP could enforce audits for compliance, positioning leaders like Delhi as case studies for nationwide rollout under RDSS.

07 Chapter Prior-Period Adjustments

Introduction

Section 61 of the Electricity Act, 2003 mandates that the Appropriate Commission, while determining tariff, shall ensure safeguarding of consumer's interests and at the same time, recovery of the cost of electricity in a reasonable manner. As per National Tariff Policy, 2016 also, the Regulatory Commissions need to strike the right balance between the requirements of the commercial viability of distribution licensee and consumer interests, and the State Commissions should introduce mechanisms for sharing of excess profits and losses with the consumers as part of the overall MYT framework.

Keeping in mind the above provisions, the State regulatory commissions while approving Annual Revenue Requirements (ARR) of the distribution licensee may adjust the prior period gains/losses of the distribution license calculated after true up of the cost and revenue of previous years, if any in the current year ARR during tariff approval. If these gains/losses are large, these may impact ARR significantly and reduce/increase it to such large extent that it will have impact on the tariff and revenue of current year ARR.

This section analyzes the tariff order of DISCOMs to assess the impact of prior period adjustment, if any, whether it is so large that it is impacting current costs of Discom.

State Wise Analysis

The tariff order for FY 2025-26 has been analyzed for all states except Delhi and Uttar Pradesh for this purpose. For Delhi, tariff orders for FY 2021-22 and for Uttar Pradesh, tariff order for FY 2024-25 have been analyzed. Approved ARR and prior period adjustment as percentage of ARR has been shown in the table below:

Table 13:Prior Period Adjustments as ARR%

Sr. No.	State	DISCOM	Approved ARR	Prior period adjustment	
				Gain	Loss
			Rs Cr	%	%
1	Assam	APDCL	10,407.3	`	0%
2	Delhi	BRPL	9,423.6	0%	6.5%
3	Jharkhand	JBVNL	8,980.5	0%	0%
4	Karnataka	MESCOM	5,846.0	0%	0%
5	Madhya Pradesh	MPMakVVCL	18,919.7	0%	6.4%
6	Tamil Nadu	TNPDCL	83,608.0	0%	0%
7	Uttar Pradesh	PuVVNL	22,734.5	0%	0%

Observations:

Following are the key observations from tariff orders of 7 DISCOMs across 7 states:

- The adjustment of prior period gains in approved ARR of the current year has not been done explicitly in any state. Except Uttar Pradesh, no DISCOM has surplus in the previous years.
- Assam has surplus in the current year which has been adjusted in the revenue from tariff and accordingly tariff and cross-subsidy has been reduced to pass through the surplus in the current year to consumers. This shows improving financials of distribution licensee APDCL and inclination of state commission toward tariff rationalization when surplus exists.
- In Delhi, carrying costs for previous revenue gaps and PPAC cost for various quarters of FY 2021 & FY 2022 have been added in the ARR, which is almost 6.5% of the approved ARR. As the revenue at existing tariff is still more than the estimated ARR after inclusion of the previous gaps, it has not impacted tariff.
- In Madhya Pradesh, ARR approved by Commission includes Revenue Gap of MP Genco, MP Transco and MP DISCOMs True ups, which is around 6.4% of the total approved ARR.
- In Uttar Pradesh, the commission computed a cumulative surplus of Rs 1,944.72 Cr versus petitioner's claimed cumulative gap of Rs 23,676.13 Cr considering the previous surplus and carrying cost thereon. There is a contention related to surplus calculation methodology adopted by the Commission and the legal matter of the regulatory adjustment along with the various tariff orders are pending before Hon'ble APTEL and proceedings are ongoing. The final treatment of the same will depend upon the outcome of these proceedings and outcomes could significantly alter ARR/tariff trajectories.
- In Jharkhand, there was a revenue gap in FY 2024 but a surplus in FY 2025 which was then adjusted against the previous gap. It shows positive improvement, but needs to be checked in further years, whether the surplus is structural (efficiency/ collections) or temporary.
- All entries show 0% prior-period adjustment of surplus in the table, yet state commissions have embedded true-ups, surplus pass-throughs, or unresolved regulatory adjustments in ARR/tariff rationalization. This suggests prior-period items are being handled but not explicitly broken out in the ARR column.
- Assam has done cross-subsidy rationalization for a surplus of Rs. 911 Cr. and have reduced tariff, this could be a precedent for other states when surpluses materialize.
- Uttar Pradesh's judicial outcome is a key watch item. The final judgement may have a significant impact on the Tariff of the consumers.
- Regular approval, publication and updation of tariff orders is essential, otherwise, risk of overstating/ understating the present requirement arises, such as in the case of Delhi (BRPL) and Tamil Nadu (TNPDCL), and hence there is a high likelihood of changes since and hence these data may not represent true picture. Any cross-state benchmarking could be done only after updated orders are incorporated.

08 Chapter Cross-Subsidy

Introduction

Cross subsidy on electricity tariffs refers to the practice where certain consumer categories (e.g., industrial or commercial users) pay higher rates to offset lower tariffs for subsidized groups (e.g., domestic, agricultural, or low-income consumers). This mechanism is integral to tariff design in India, promoting social equity by making power affordable for vulnerable segments while ensuring overall revenue adequacy for Distribution Companies (DISCOMs). It helps bridge the gap between the average cost of supply and subsidized rates, supporting national goals like rural development and food security. However, excessive cross-subsidies can distort market dynamics, discourage efficient consumption, increase industrial tariffs (potentially harming competitiveness), and strain DISCOM finances if not balanced with direct subsidies.

The Tariff Policy 2016, under Section 8.3, mandates that cross-subsidies be progressively reduced and contained within a band of ±20% of the average cost of supply (ACoS). This limit aims to minimize distortions, encourage cost-reflective tariffs, and phase out cross-subsidies through alternative mechanisms like direct benefit transfers (DBT).

Further, SERCs are required to specify a roadmap for reduction, ensuring no category exceeds

+20% or falls below -20% of ACoS, except in justified cases.

Regulatory Framework

The National Tariff Policy, 2016 aims to make retail electricity tariffs more cost-reflective and to progressively reduce cross-subsidies across consumer categories. It provides for the convergence of category-wise tariffs toward a narrow band around the average cost of supply, while permitting lifeline support for low-income households within specified consumption limits.

It further stipulates that any concessional or free supply should be funded through explicit budgetary support from State Government budgets, in accordance with the Electricity Act, 2003, rather than through cross-subsidies embedded in tariffs. Relevant excerpts from the National Tariff Policy, 2016 are set out below:

"8.3 Tariff design: Linkage of tariffs to cost of service

> *It has been widely recognised that rational and economic pricing of electricity can be one of the major tools for energy conservation and sustainable use of ground water resources.*
> *In terms of the Section 61(g) of the Act, the Appropriate Commission shall be guided by the objective that the tariff progressively reflects the efficient and prudent cost of supply of electricity.*
>
> *The State Governments can give subsidy to the extent they consider appropriate as per the provisions of section 65 of the Act. Direct subsidy is a better way to support the poorer categories of consumers than the mechanism of cross subsidizing the tariff across the board. Subsidies should be targeted effectively and in transparent manner. As a substitute of cross subsidies, the State Government has the option of raising resources through mechanism of electricity duty and giving direct subsidies to only needy consumers. This is a better way of targeting subsidies effectively.*

Accordingly, the following principles would be adopted:

1. Consumers below poverty line who consume below a specified level, as prescribed in the National Electricity Policy may receive a special support through cross subsidy. Tariffs for such designated group of consumers will be at least 50% of the average cost of supply.

2. 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. The road map would also have intermediate milestones, based on the approach of a gradual reduction in cross subsidy.

State Wise Analysis

The Actual cross-subsidy bands vary by consumer category, calculated as the deviation from ACoS in tariff orders across States/ UTs. The State-wise overview of actual cross subsidies level is provided below:

- **Assam:** APDCL operates within a carefully calibrated cross-subsidy regime, maintaining a tariff ranging from +20% to -18% relative to ACoS. This structure reflects the approach to balancing social welfare objectives with financial sustainability, as mandated under the Electricity Act, 2003 and National Tariff Policy guidelines. The detailed consumer category- wise analysis is highlighted below:
    1. LT/ HT consumers collectively demonstrate a balanced cost-recovery position, indicating that APDCL has achieved voltage-level equity in its tariff determination.
    2. Residential consumer segment receives a subsidy ranging from +10% to -18% below the ACoS.
    3. C&I consumers bear a premium of +20% above the ACoS, making them the primary cross-subsidy contributors.
- **Delhi:** BRPL serving Delhi's central and southern regions, operates within a significantly wider cross-subsidy band of +51% to -57% relative to ACoS. This expansive range reflects Delhi's unique characteristics as a metropolitan utility serving diverse consumer segments, from economically vulnerable households to high-value commercial establishments. The detailed consumer category-wise analysis is highlighted below:
    1. Residential category receives substantial cross-subsidy support, with tariffs set 34% below the cost of service.
    2. Despite its negligible contribution of 0.21% to Delhi's overall electricity sales in FY 2021- 22, the agricultural category is accorded with the deepest subsidy at 57% below the cost of service—a reflection of policy continuity rather than economic significance.
    3. The substantial 39% subsidy extended to EV charging infrastructure demonstrates reflects a forward-looking regulatory approach to sustainable urban transport and their commitment to accelerating EV adoption through reduced operational costs.
    4. Industrial category tariffs exceed cost-of-service by 28-35%, positioning this segment as a moderate cross-subsidy contributor.
    5. Commercial establishments bear the heaviest cross-subsidy burden at 51% above cost- of-service.
- **Jharkhand:** Cross-subsidy analysis for JBVNL is constrained by considerable inadequacies in information disclosure, which materially impair both tariff formulation quality and operational execution.

- **Karnataka:** MESCOM operating in Karnataka's coastal and Malnad regions, exhibits a complex cross-subsidy architecture with a remarkable bandwidth spanning from +85% to - 44%. This tariff structure reflects the delicate balancing act between ensuring affordable electricity for vulnerable consumer segments while maintaining commercial viability and promoting emerging sectors like electric vehicle infrastructure. The detailed consumer category-wise analysis is highlighted below:
    1. LT commercial consumers occupy a moderate position at 12.3% in MESCOM's cross- subsidy hierarchy.
    2. Commercial Advertisements and Hoardings subsidize nearly 85% of the cost of supply beyond the actual cost while LT EV Charging Stations Receives subsidies equivalent to 44% below cost of supply. However, these two categories have an extremely marginal presence, accounting for only 0.04% of the MESCOM's aggregate revenue and sales for FY 2025-26.
    3. LT Irrigation Pumpsets ≤10 HP at -4% represents Karnataka's agricultural support paradigm.
    4. Across the HT category consumers, the cross subsidy is within ±20% of ACoS.
- **Madhya Pradesh:** MPMaKVVCL reveals a complex redistribution mechanism characteristic of India's power sector reform trajectory. The cross-subsidy band spanning from +38% to - 25% demonstrates the extent of internal subsidization, wherein commercial and industrial consumer segments effectively finance concessional tariffs for priority categories. The detailed consumer category -wise analysis is highlighted below:
    1. LT commercial category, comprising retail establishments, offices, and service sector units, faces the second highest cross-subsidy burden at 34% above ACoS.
    2. LT industrial consumers, typically small and medium manufacturing units, face a 30% cross-subsidy above ACoS.
    3. HT non-industrial category commanding the highest cross-subsidy at 38% above ACoS.
    4. HT industrial consumers face a moderate 12% cross-subsidy, balancing revenue needs with industrial competitiveness concerns in a liberalized economy.
- **Tamil Nadu:** TNPDCL exhibits one of the most pronounced cross-subsidy regimes among Indian distribution utilities, with a cross-subsidy band spanning from +76% above ACoS to - 48% below it. The detailed consumer category-wise analysis is highlighted below:
    1. The HT Commercial segment faces steepest cross-subsidy at 76% above ACoS, effectively positioning them as the primary subsidizing class.
    2. Industrial consumers (both HT & LT) in +45% to +60% cross-subsidy band effectively function as primary revenue sources for subsidizing economically weaker consumer segments.
    3. LT Domestic consumers receive a 22% subsidy below cost recovery levels, featuring lifeline tariffs protecting vulnerable households and progressive slab-based internal cross- subsidization.
    4. Operating at 48% below ACoS, the agricultural consumers receive most substantial subsidy within TNPDCL's tariff framework.
    5. Cottage and tiny industrial units face a relatively moderate cross-subsidy of 13% above ACoS, representing a calibrated regulatory approach that balances revenue requirements with developmental priorities.
    6. Powerlooms face a minimal +7% cross-subsidy, reflecting sector-specific policy considerations tied to their geographical concentration in textile belts like Erode, Coimbatore, and Karur.

- **Uttar Pradesh:** PuVVNL serving the eastern region of Uttar Pradesh, operates within a complex cross-subsidy architecture spanning from +37% to -22%, reflecting a deliberate tariff design that balances socio-economic objectives with cost-recovery imperatives. The detailed consumer category-wise analysis is highlighted below:
    1. Small and Medium Power consumers (≤100 HP/75 kW) face a modest +14% cross- subsidy, exemplifying MSME-friendly tariff architecture.
    2. Large & Heavy Power consumers (>100 HP/75 kW) exhibit pricing positioned merely 2% above cost benchmarks, this segment experiences virtually cost-neutral tariffs.
    3. HT Non-Industrial Bulk Load with +25% cross-subsidy has the Second-largest cross- subsidy contributor after institutional consumers.
    4. LT Private Tube Wells/ Lamps with cross subsidy 22% below ACoS, emerged as the most heavily subsidized category.
    5. Domestic Light, Fan & Power with cross subsidy 14% below ACoS, represents the second-largest subsidized category.
    6. Commercial establishments bear a premium 19% above ACoS, functioning as material revenue contributors that partially offset subsidies extended to agricultural and domestic consumer categories.

Observations:

- **Tariff Compression Model:** APDCL operates within the most constrained bandwidth of +20% to -18%, signaling a regulatory preference for tariff uniformity and minimal inter-category subsidization. This approach potentially reduces distortions while limiting the fiscal space for targeted consumer relief, offering analytical insights into states prioritizing revenue stability over aggressive welfare redistribution.
- **Inadequate disclosure challenges:** Jharkhand (JBVNL) represents a significant case study demonstrating challenges in the determination of cross-subsidy architecture in the State. This is marked by inadequate disclosure of information in the tariff orders, which materially affects both tariff formulation quality and the systematic determination of cross-subsidy mechanisms.
- **Welfare Orientation:** TNPDCL maintains one of India's most pronounced cross-subsidy frameworks at +76% to -48%, underscoring the state's historical commitment to subsidized agricultural power and welfare-driven tariff design, albeit with implications for DISCOM financial health and industrial tariff competitiveness.
- **Cross Subsidy Divergence:** The cross-subsidy divergence across States/UTs reveals that while national frameworks nominally govern cross-subsidy mechanisms, their actual implementation is calibrated to state-specific economic conditions, consumer demographics, and fiscal priorities—thereby presenting both opportunities for contextual innovation and challenges for sector-wide standardization initiatives.
- **Regional Economic Considerations:** Tariff structures across state distribution utilities demonstrate distinct cross-subsidy approaches aligned with regional industrial priorities:

1. Tariff relief is provided for Powerloom consumers (+7% above ACoS) in TNPDCL, which is concentrated in various districts of the State.
2. For MPMaKVVCL, moderate cross-subsidy applies on HT industrial consumers (+12% above ACoS), balancing DISCOM cost recovery with industrial competitiveness objectives.
3. For PuVVNL, minimal cross-subsidy levels have been maintained for Large Power consumers (+2% above ACoS), creating favorable conditions for capital-intensive manufacturing establishments.
4. For MESCOM, HT industrial consumer tariffs are within ±20% of ACoS, representing a moderate cross-subsidy position relative to other states.

- **In spite of repeated focus on reducing cross-subsidisation, this continues to significantly distort the tariff structure. Industrial tariff being 28-35 % higher than the cost of supply acts as a serious impediment to industrial growth. Same is the case with commercial tariff being as high as 51% above the cost of supply. These are bound to jeopardize economic growth and employment creation.**

Annexures

Annexure-I: Overview of selected DISCOMs

Sr. No.	State	SERCs	DISCOM	Latest Tariff Order	Latest True-up Order	Region	DISOCM Type	Estimated Energy Sales (MU)	Approved ARR (Rs. Cr.)
1	Assam	AERC	APDCL	FY 2025-26	FY 2023-24	North-East	Public	12,197.8	10637.54
2	Delhi	DERC	BRPL	FY 2021-22	FY 2020-21	North	Private	12,362.0	9,423.6
3	Jharkhand	JSERC	JBVNL	FY 2025-26	FY 2023-24	East	Public	13,063.85	8,980.5
4	Karnataka	KERC	MESCOM	FY 2025-26	FY 2023-24	South	Public	6815.74	5,846.0
5	Madhya Pradesh	MPERC	MPMakVVCL	FY 2025-26	FY 2023-24	West	Public	26,661.20	18,919.7
6	Tamil Nadu	TNERC	TNPDCL	FY 2025-26	FY 2023-24	South	Public	97,936.0	83,608
7	Uttar Pradesh	UPERC	PuVVNL	FY 2024-25	FY 2022-23	North	Public	29,170.98	22,734.52

Annexure-II: DISCOM-wise Minimum and Maximum Cross Subsidy Bands

Sr. No.	Discom	FY	Cross Subsidy	
			Max.	Min.
1	APDCL	2025-26	20%	-18%
2	BRPL	2021-22	51%	-57%
3	JBVNL	2025-26	-	-
4	MESCOM	2025-26	85%	-44%
5	MPMakVVCL	2025-26	38%	-25%
6	TNPDCL	2025-26	76%	-22%
7	PuVVNL	2024-25	37%	-22%

Source: Tariff Orders issued by SERC of the respective DISCOM.

Annexure-III Category wise cross subsidy across categories

DISCOM	Category	ABR	ACoS	Cross Subsidy	
		In Rs/kWh	In Rs/kWh	in %	Within ±20% of ACoS
Assam					
APDCL	**LT Category**				
	Jeevan Dhara	7.11	8.72	-18%	✓
	Domestic A- above 0.5 kW to 5 kW	7.30	8.72	-16%	✓
	Domestic-B above 5 kW to 30 kW	9.30	8.72	7%	✓
	Commercial Load above 0.5 kW to 30 kW	10.46	8.72	20%	✓
	General Purpose Supply	10.46	8.72	20%	✓
	Public Lighting	9.31	8.72	7%	✓
	Agriculture up to 7.5 HP	7.90	8.72	-9%	✓
	Small Industries Rural up to 30 kW	8.71	8.72	0%	✓
	Small Industries Urban	8.31	8.72	-5%	✓
	EV Charging Stations	8.72	8.72	0%	✓
	HT Category				
	HT Domestic 30 kW and above	8.79	8.72	1%	✓
	HT commercial 30 kW & above	10.46	8.72	20%	✓
	Public Water Works	10.42	8.72	19%	✓
	Bulk Supply - Educational Institutions/ Charitable organisations involved in eradicating hunger specially for children	8.99	8.72	3%	✓
	Bulk Supply Others	10.25	8.72	18%	✓
	HT Small Industries up to 50 kVA	9.06	8.72	4%	✓
	HT Industries-1 50 kVA to 150 kVA	10.37	8.72	19%	✓
	HT Industries-II above 150 kVA	9.45	8.72	8%	✓
	Tea, Coffee & Rubber	9.68	8.72	11%	✓
	Oil & Coal	10.45	8.72	20%	✓
	HT Irrigation Load above 7.5 HP	10.45	8.72	20%	✓
	EV Charging Stations	8.35	8.72	-4%	✓

DISCOM	Category	ABR	ACoS	Cross Subsidy	
		In Rs/kWh	In Rs/kWh	in %	Within ±20% of ACoS
Karnataka					
MESCOM	LT Category				
	Domestic	8.58	8.65	-0.8%	✓
	Pvt. Educational Institutions and Hospitals etc.	9.24	8.65	6.8%	✓
	Commercial	9.71	8.65	12.3%	✓
	Commercial-Advertisements and Hoardings	16.00	8.65	85.0%	✗
	Irrigation pump sets <= 10 HP	8.30	8.65	-4.0%	✓
	Irrigation pump sets > 10 HP	15.63	8.65	80.7%	✗
	Pvt. Nurseries, Coffee/Tea Plantations etc.	12.33	8.65	42.5%	✗
	Industrial	9.60	8.65	11.0%	✓
	Water Supply	6.99	8.65	-19.2%	✓
	Public Lighting	8.36	8.65	-3.4%	✓
	EV Charging stations	4.87	8.65	-43.7%	✗
	Temporary power supply	11.22	8.65	29.7%	✗
	HT Category				
	Water Supply & Sewage Pumping	7.38	8.65	-14.7%	✓
	Industrial	8.38	8.65	-3.1%	✓
	Commercial	8.53	8.65	-1.4%	✓
	Govt. Educational Institutions and Hospitals etc.	9.05	8.65	4.6%	✓
	Pvt. Educational Institutions and Hospitals etc.	9.74	8.65	12.6%	✓
	Residential Apartments	8.36	8.65	-3.4%	✓
	Temporary power supply	10.33	8.65	19.4%	✓
	Irrigation/Agricultural/Govt. Hotricultural Farms	8.33	8.65	-3.7%	✓
	Lift irrigation consumers- Government	10.34	8.65	19.5%	✓

DISCOM	Category	ABR	ACoS	Cross Subsidy	
		In Rs/kWh	In Rs/kWh	in %	Within ±20% of ACoS
Delhi					
BRPL	LT Category				
	Domestic	4.90	7.43	-34%	✗
	Non-Domestic	11.24	7.43	51%	✗
	Industrial	9.53	7.43	28%	✗
	Agriculture	3.20	7.43	-57%	✗
	Public Utilities	7.39	7.43	-1%	✓
	DIAL	8.20	7.43	10%	✓
	E-Vehicle Charging Stations	4.50	7.43	-39%	✗

DISCOM	Category	ABR	ACoS	Cross Subsidy	
		In Rs/kWh	In Rs/kWh	in %	Within ±20% of ACoS
Madhya Pradesh					
MPMakVVCL	**LV Category**				
	Domestic	6.82	7.14	-4%	✓
	Non-Domestic	9.58	7.14	34%	✗
	Public Water Works & Street Light	6.98	7.14	-2%	✓
	LT Industrial	9.31	7.14	30%	✗
	Agriculture & Allied activities	6.40	7.14	-10%	✓
	E-Vehicle/ E-Rickshaws Charging Stations	7.14	7.14	0%	✓
	HV Category				
	Railway Traction	5.39	7.14	-25%	✗
	Coal Mines	8.83	7.14	24%	✗
	HT Industrial, Non-Industrial and Shopping Malls	7.71	7.14	8%	✓
	Industrial	7.99	7.14	12%	✓
	Non Industrial	9.83	7.14	38%	✗
	Shopping Malls	8.92	7.14	25%	✗
	Power Intensive Industries	6.03	7.14	-16%	✓
	Seasonal	8.16	7.14	14%	✓
	Irrigation, Public Water Works and Other than Agricultural	8.41	7.14	18%	✓
	Bulk Residential Users	7.9	7.14	11%	✓
	E-Vehicle/ E-Rickshaws Charging Stations	7.14	7.14	0%	✓
	Metro Rail	7.17	7.14	0%	✓

DISCOM	Category	ABR	ACoS	Cross Subsidy	
		In Rs/kWh	In Rs/kWh	in %	Within ±20% of ACoS
Tamil Nadu					
TNPDCL	**High Tension**				
	Registered factories, textiles, tea estate, Software Industries etc.	**9.96**	8.54	17%	✓
	Govt. Educational Institutions, Govt. Hospitals, Water supply etc.	10.93	8.54	28%	✗
	Private Educational Institutions, Cinema Theatres & Studios	12.28	8.54	44%	✗
	Commercial and all categories not covered in other HT categories	12.87	8.54	51%	✗
	HT Temporary Supply for construction & other purpose	17.52	8.54	105%	✗
	Low Tension				
	Domestic, Hand Loom etc.	6.69	8.54	-22%	✗
	Huts in Village panchayats, TAHDCO etc.	10.27	8.54	20%	✗
	LT Bulk supply for railway, defense colonies etc.	10.73	8.54	26%	✗
	Domestic Common Supply	10.1	8.54	18%	✓
	Public Lighting and Public Water Supply & Sewerage	10.62	8.54	24%	✗
	Government and aided Educational Institution, Government Hospitals etc.	13.99	8.54	64%	✗
	Private Educational Institution	13.71	8.54	61%	✗
	Actual place of public worship, Mutts and Religious Institutions	10.55	8.54	24%	✗
	Cottage and Tiny Industries	9.64	8.54	13%	✓
	Power loom etc.	9.11	8.54	7%	✓
	Industries not covered under LT Tariff IIIA (1), IIIA (2) incl. IT	12.4	8.54	45%	✗
	Agriculture and Govt. seed farm etc.	4.42	8.54	-48%	✗
	Commercial and all categories not covered in other LT categories	15.04	8.54	76%	✗
	Temporary supply other than Domestic and Lavish illuminations	39.21	8.54	359%	✗

DISCOM	Category	ABR	ACoS	Cross Subsidy	
		In Rs/kWh	In Rs/kWh	in %	Within ±20% of ACoS
Uttar Pradesh					
PuVVNL	LMV-1 Domestic Light Fan & Powe	6.71	7.79	-14%	✓
	LMV-2-Non-Domestic Light Fan & Power	9.3	7.79	19%	✓
	LMV-3 Public Lamps	10.1	7.79	30%	✗
	LMV-4 Light, Fan & Power for Public/ Private InstitutionsPrivate Institutions Private Institutions	10.68	7.79	37%	✗
	LMV-5 Private Tube Well/ Pumping Sets	6.08	7.79	-22%	✗
	LMV-6 Small & Medium Power up to 100 hp/ 75kw	8.9	7.79	14%	✓
	LMV-7 Public Water Works and LMV-8 State Tube Wells & Pumps Canal up to 100HP	9.71	7.79	25%	✗
	LMV-9 Temporary Supply	10.44	7.79	34%	✗
	LMV--11 Electrical Vehicles	7.46	7.79	-4%	✓
	HV-1 Non-Industrial Bulk Load	9.77	7.79	25%	✗
	HV-2 Large & Heavy Power above 100 BHP (75 kW)	7.93	7.79	2%	✓
	HV-3 Railway Traction	8.78	7.79	13%	✓
	HV-4 Lift Irrigation & P. Canal above 100BHP (75kW)	9.32	7.79	20%	✓
	Extra State Consumer	7.53	7.79	-3%	✓

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