



Public Private Partnership (PPP) in Distribution

5th February 2025

TATA POWER

The Tata Power Company Limited

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A. Importance of Public Private Partnership

Why Public Private Partnership in Distribution ?



Increased T&D Losses

Pressure on Financial of Discom - Losses

Shortage of Resources for Future Investment

Increased Operational Efficiency

Risk Sharing - Between Government and Discom



B. Cases of PPP in Distribution in India



A . 51 : 49 Partnership

- Odisha Privatisation– Commenced in 1997.
- Delhi Discom- 2002
- Odisha Privatisation 2.0 – June 2020
- DNDND and DD Power Distribution Corporation Limited – DNDDDPDCL

B . 100 % privatisation

- Chandigarh Power Distribution Limited



I -Tata Power's experience of PPP in Distribution - Odisha

Odisha Discom Business (1/2)



Purchases Power from GRIDCO

Pays to GRIDCO at BSP



Receives Power purchased from GRIDCO through Transmission Network & 220/132/33 kV Grid Sub Station of OPTCL

Pays to OPTCL : Transmission Charges at Rs.0.255 /kWh



Distribute Power to 95 lakh Consumer at 33kV/11kV/440 Volt/ 230 Volt

Collects from Consumer at OERC approved Retail Supply Tariff

Odisha Discom Business (2/2)



Power Purchase from GRIDCO



100 Units



T&D Loss or Billing Loss (25%)



25 Units

AT&C Loss = $100\% - 75\% \times 99\%$
= 25.75%

Sales to Consumers (EHT, HT & LT)

Sales / Billed Units



75 Units



Rs. 300

Billing Efficiency : 75%
Billing Loss- 25%

Collection Efficiency : 99%



Revenue Collected



Rs. 297



- Journey of reforms in Odisha

The Odisha Distribution Reforms V2.0



History

Sale

- Distribution Sector divided into Four DISCOM.
- Three sold to BSES.
- One Sold to AES.

- License of Three DISCOM under Reliance (BSES) was revoked by OERC .

1996

1997

2005

2015

- Privatization under Reform v2 commenced.

- OSEB was Split into GRIDCO & OHPC.
- GRIDCO takes T&D.
- OHPC takes Hydel generation.

- AES walked out of CESCO.
- OERC revoked license of AES.
- An Administrator was appointed to run CESCO operation.

- Bids invited by the OERC u/s 20 (1) (a) of Electricity Act,2003 as per terms of RFP :-
 - Dated 24.11.2017 (for CESU)
 - Dated 31.07.2020 (for NESCO)
 - Dated 14.08.2020 (for SOUTHCO & WESCO).

- Post evaluation of bids ,all 4 utilities were **vested** to TPCL u/s 21 of EA,2003 w.e.f
 - 01.06.2020 (TPCODL)
 - 01.01.2021 (TPWODL,TPSODL)
 - 01.04.2021 (TPNODL)



- Features of Privatisation

a. Financial Support of the Government in Privatisation



1

Government Support- Holding
Back liabilities (Rs Cr)

Sr No	Particulars	TPCODL	TPSODL	TPNODL	TPWODL	Total
1	Loans from Government and Other related Entities	3423	781	683.55	693.69	5581
2	Power Purchase Liabilities to Gridco	1264	1146	1062	1466	4938
3	Total	4687	1927	1745.55	2159.69	10519

2

Impact of Government Support

Sr No	Particulars	Units	Value
1	Liabilities Withheld	Rs Cr	10519
2	Equated Liability	Rs Cr	1,639
3	Sales of Odisha Discoms	MUS	33388
4	Avg Tariff Impact	Rs/Kwh	0.49
5	Avg Tariff of Odisha Discom	Rs/Kwh	5.81

Holding Back liability helped in reducing tariff to consumers

a. Financial Support of the Government in Privatisation (2/2)



Sr No	Particulars	Amount	Rs Cr	
			With new Entity	With Erstwhile Entity
A	Equity and Liabilities			
1	Equity and Reserves	-2391.13	348.05	-2539.18
2	Long Term Loans	625.35	0	625.35
3	Short Term Loans	158.9	158.9	0
4	Trade Payables- Power Purchase from Gridco	1444.95	98.87	1146.13
5	Other Liabilities	2390.32	901.52	1488.8
6	Total	2228.39	1507.34	721.1
B	Assets			
1	Assets (Net)	646.94	644.88	2.06
2	Debtors	440.65	266.63	174.02
3	Bank Balances	431.98	431.98	0
4	Other Current Assets	709	164	545
5	Total	2228.43	1507.35	721.08

Manner of splitting the Balance Sheet- One of the Discoms

b. How Consumers were protected (1/2)



Long Term AT&C Losses for tariff determination pre-defined – Protecting consumer interest

How the Losses impact tariff

Sr No	Particulars	Unit	Case I : Loss = 20%	Case I : Loss = 25%
a	Power Purchase Requirement	Kwh	1000	1000
b	Loss	%	20%	25%
c	Sales	Kwh	800	750
d	Power Purchase Cost @Rs 3 per Unit	Rs	3000	3000
e	Distribution Cost	Rs	1000	1000
f	Total Cost	Rs	4000	4000
	Average Tariff	Rs/Kwh	5.00	5.33

- Average Tariff increases when the losses increase

b. How consumers were protected (2/2)



1

Year	TPCODL	TPSODL	TPWODL	TPNODL
Op. Loss Level	30.44%	35.00%	27%	25.17%

2

Long Term AT&C Losses for tariff determination pre-defined – Target specified for 10 years

	TPCODL	TPSODL	TPWODL	TPNODL
FY 21	23.70%			
FY 22	23.70%	25.75%	20.40%	19.17%
FY 23	23.70%	25.75%	20.40%	19.17%
FY 24	22.00%	25.75%	18.90%	17.09%
FY 25	20.00%	25.35%	17.40%	15.00%
FY 26	18.00%	25%	15.90%	13.83%
FY 27	16.00%	22.57%	14.50%	12.76%
FY 28	15.00%	20.38%	13.00%	11.77%
FY 29	14.00%	18.40%	11.50%	10.85%
FY 30	13.50%	16.61%	10.00%	10.00%
FY 31		15.00%	9.50%	9.50%

C. Commitments from Private Discom (1/4)



1

Commitment to reduce the AT&C Loss

Year	TPCODL	TPSODL	TPWODL	TPNODL
Op. Loss Level	30.44%	35.00%	27%	25.17%
FY 21	29.13%			
FY 22	26.89%	35.29%	27.56%	24.32%
FY 23	23.76%	34.29%	25.56%	22.32%
FY 24	21.98%	32.80%	22.50%	20.80%
FY 25	20.19%	30.00%	20.50%	17.80%
FY 26		26.75%	18.50%	15.50%
FY 27		22.00%	14.50%	12.50%
FY 28		20.00%	12.50%	11.50%
FY 29		18.00%	11.00%	10.50%
FY 30		16.25%	9.50%	9.50%
FY 31		14.80%	9.08%	8.90%

Extracts from “Vesting Order” of Odisha Electricity Regulatory Commission

The TPCL shall be liable to pay a penalty of Rs.50 crores for every 1% (one percent) shortfall in meeting the committed AT&C loss targets, or proportionately for a part thereof, found as a result of the Commission’s review at the end of the FY 2023 and FY 2025.

C. Commitments from Private Discom (2/4)



Figs. In Rs. Cr.

2

Minimum Capital Investment of Rs 5640
Crores in Five Years

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
TPCODL	201	393	310	338	299	1541
TPSODL	227	316	241	233	150	1167
TPWODL	306	500	333	322	202	1663
TPNODL	246	376	259	247	141	1269
Total	980	1585	1143	1140	792	5640

TPC Investment in Discoms over 5 years would be $5640 \times 30\% \times 51\% =$ Rs 863 Crores

Extracts from “Vesting Order” of Odisha Electricity Regulatory Commission

The incentive mechanism for sharing of past arrears collection was also provided in the RFP. TPCODL shall be offered an incentive of ten percent (10%) for Past Arrears collected from live consumers and twenty percent (20%) for Past Arrears collected from permanently disconnected consumers. This incentive would be on the amount of Past Arrears collected from the consumers, net of all taxes and duties recovered from consumers.

C. Commitments from Private Discom (3/4)



3

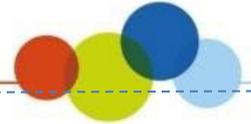
Past Arrears Collection (Rs Cr)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
TPCODL	20	80	40	40	20	200
TPSODL	10	30	30	20	10	100
TPWODL	30	120	60	60	30	300
TPNODL	50	120	100	80	50	400
Total	110	350	230	200	110	1000

Extracts from “Vesting Order” of Odisha Electricity Regulatory Commission

The incentive mechanism for sharing of past arrears collection was also provided in the RFP. TPCODL shall be offered an incentive of ten percent (10%) for Past Arrears collected from live consumers and twenty percent (20%) for Past Arrears collected from permanently disconnected consumers. This incentive would be on the amount of Past Arrears collected from the consumers, net of all taxes and duties recovered from consumers.

C. Commitments from Private Discom (4/4)



4

All Power Purchase to be made from Gridco

Enables Discoms to focus on the Distribution part

5

The Terms and conditions of Erstwhile Employees to be retained

Cost Recovery through Government Rules



-How the Government Benefitted

Government was paid the price for Equity



Figs. In Rs. Cr.

1

Initial Investment of Rs 752 Crores by TPC

Discom	Reserve Price (100% Equity)	Quoted Price (100% Equity)	Premium (100% Equity)	TPC Equity (51%)	TPC Equity Premium (51%)	TPC Purchase Consideration (51%)
a	b	c	d	e	f	g= f+e
TPCODL	300	350	50	153	25.5	178.5
TPSODL	200	250	50	102	25.5	127.5
TPWODL	300	500	200	153	102	255
TPNODL	250	375	125	127.5	63.75	191.25
Total	1050	1475	425	535.5	216.75	752.25

Earned profits through operations



2

Share in Profits from Operation

Sr No	Particulars	Units	TPCODL	TPNODL	TPWODL	TPSODL	Total
Reserves at the end of 31st March 2025							
a	Reserves	Rs Cr	262	480	301	219	1262
b	Government Share (49%)	Rs Cr	128	235	147	107	618

3

Benefitted by Arrear Collection

Sr No	Particulars	Units	TPCODL	TPNODL	TPWODL	TPSODL	Total
Arrear Collection upto FY 2024-25							
a	Achieved	Rs Cr	488	754	458	306	2006
b	Flowing to Gridco	Rs Cr	439	679	412	245	1775



-Performance of Discoms so far

Performance of Discoms



1

Performance of Discoms

Sr No	Particulars	Units	TPCODL	TPNODL	TPWODL	TPSODL	Total
1	AT&C Loss	%					
a	Target in FY 2024-25	%	20.19%	17.80%	20.50%	30.00%	
b	Achieved	%	18.49%	11.15%	16.23%	19.63%	
2	Capex/Capitalisation						
a	Target upto FY 2024-25	Rs Cr	1541	1128	1461	1017	5147
b	Achieved	Rs Cr	1561	1490	1759	1266	6076
3	Arrear Collection upto FY 2024-25						
a	Target	Rs Cr	200	350	270	90	910
b	Achieved	Rs Cr	488	754	458	306	2006



-How the Discoms Benefitted

Benefits to Discom (1/2)



1

Improvement
Returns due
Reduction in Losses

in
to

Sr No	Particulars	Units	TPCODL	TPNODL	TPWODL	TPSODL	Total
1	Sales	Mus	11449	7589	10515	3835	33388
2	Revenue	Rs Cr	6615	4487	6148	2163	19413.37
3	Power Purchase	MUs	13822	8718	11550	5062	39152
4	Cost of Power Purchase Costs	Rs Cr	4357	3142	4795	963	13256
5	Avg Power Purchase Rate	Rs/Kwh	3.15	3.60	4.15	1.90	3.39
6	Avg Selling Price	Rs/Kwh	5.78	5.91	5.85	5.64	5.81
Impact of Improvement in Billing and Collection Efficiency							
7	Improvement of Billing Efficiency by 1%	Rs Cr	44	31	48	10	133
8	Improvement of Collection Efficiency by 1%	Rs Cr	66	45	61	22	194
9=7+8	Total	Rs Cr	110	76	109	31	327
10	Investment for 100% Equity	Rs Cr	350	375	500	250	
11=9/10	Returns	Rs Cr	31%	20%	22%	13%	

Benefits to Discom (2/2)



2

Share in Arrears Recovery

Sr No	Particulars	Units	TPCODL	TPNODL	TPWODL	TPSODL	Total
Arrear Collection upto FY 2024-25							
a	Achieved	Rs Cr	488	754	458	306	2006
b	Flowing to Gridco	Rs Cr	439	679	412	245	1775
c	Flowing to Discom	Rs Cr	49	75	46	61	231

3

Returns through Capital Investment

Sr No	Particulars	Units	TPCODL	TPNODL	TPWODL	TPSODL	Total
Capex/Capitalisation							
a	Capitalisation	Rs Cr	1561	1490	1759	1266	6076
b	Equity= 30% of Capitalisaotni	Rs Cr	468.3	447	527.7	379.8	1822.8
c	Original Equity	Rs Cr	300	250	300	200	1050
d	Total Equity	Rs Cr	768.3	697	827.7	579.8	2872.8
e	Return on Equity-16% of Equity	Rs Cr	123	72	84	61	340



-Aiding Factors and Challenges



- *Active and Involved Government of Odisha*
- *Adequate Power Availability*
- *Low Political Interference*
- *Good Infrastructure of roads and water*
- *Reasonable Tariffs for Industries to set up shop*
- *Tolerant Society*
- *Enthusiastic Workforce*

Challenges



- *Existing Electrical Network in bad condition- Impacts reliability greatly. Low Voltage pocketz*
- *Vast Area including Rural Areas- collection and maintain network*
- *Safety Culture and practices penetrating although higher speed is desired*
- *Pressure on Tariff to be maintained*
- *Odisha State is prone to cyclones and “Kalbaishaki” or Norwestor- impacts the network*
- *Culture blend yet to happen*



-Role of Stake Holders



Government of Odisha

- *Very Active Government- Regular Reviews, “Hands On” approach. Makes substantial Investment*
- *Very supportive during Cylones in terms of providing funds*
- *Good Bureaucratic setup for functioning*
- *No Subsidy provided to consumers*

OERC

- *Has successfully completed the privatization process*
- *Tariff filing and Tariff Orders in Time*
- *No Regulatory Assets in Tariff*
- *Approachable and Efficient Commission*
- *Regular Reviews of Performance of Discoms*



II -Tata Power's experience of PPP in Distribution - Delhi

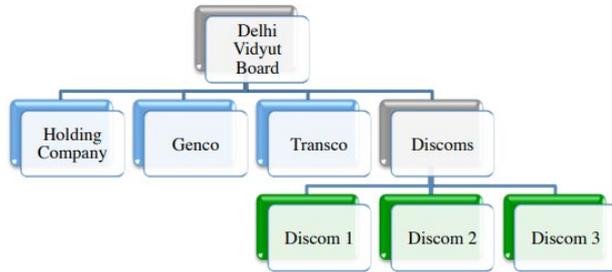
1. Road to Privatisation of Delhi Discom



Unbundling of DVB (Nov 21)

- Unbundling of Delhi Vidyut Board
- Generation Assets transferred to Pragati Power and Indraprastha Power
- Transmission Assets transferred to Delhi Transco
- Distribution Assets transferred to three Distribution Companies :

Central East Delhi
South West Delhi
North North West Delhi



Policy Direction (Nov 21 and May 22)

- Privatisation of Discom
- 49% Stake with Government
- AT&C Loss reduction is the Bidding parameter
- Government Support of Rs 3450 Crores

2. How the consumers were protected- Loss Reduction Trajectory



1 Loss Reduction trajectory

Central East Delhi Electricity Distribution Company Limited

(%)

		2002-03	2003-04	2004-05	2005-06	2006-07
Opening	57.2					
Accepted Bid		0.75	1.75	4.00	5.65	5.10
Minimum		1.50	5.00	5.00	5.00	4.25

South West Delhi Electricity Distribution Company Limited

(%)

		2002-03	2003-04	2004-05	2005-06	2006-07
Opening	48.1					
Accepted Bid		0.55	1.55	3.30	6.00	5.60
Minimum		1.25	5.00	4.50	4.50	4.00

North North West Delhi Electricity Distribution Company Limited

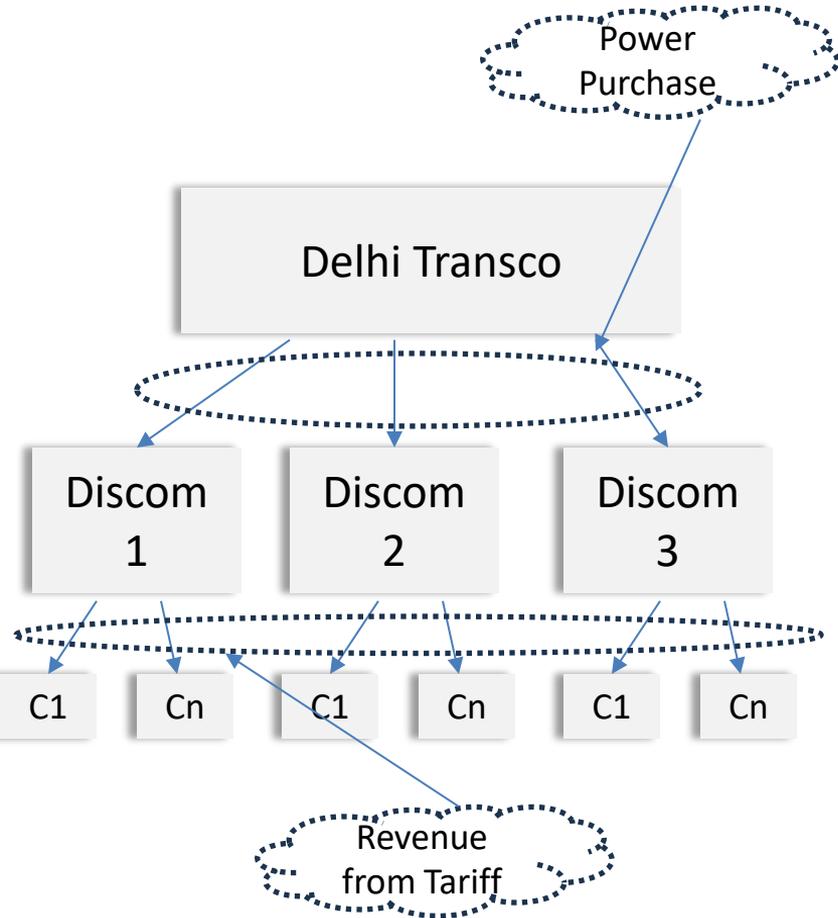
(%)

		2002-03	2003-04	2004-05	2005-06	2006-07
Opening	48.1					
Accepted Bid		0.5	2.25	4.5	5.5	4.25
Minimum		1.50	5.00	4.50	4.25	4.00

2 Conditions on Discoms

- If AT&C Loss is better (i.e lower than bid value), 50% can be retained by the Discom for the better performance
- In case it is worse, the entire difference needs to be borne by the Discom

3. How Government Support is extended (1/3)



Concept of Government Support

ARR for Discom

= Power Purchase Expenses + Distribution Expenses + Returns

Gap to be filled

= ARR for Discom – Revenue from Existing Tariff

Bearable Power Purchase Cost of Discom

= Revenue from Existing Tariff
– Distribution Expenses – Return

Government Support

= Actual Power Purchase Cost of Transco
– Bearable Power Purchase

3. How Government Support is extended (2/3)



Sr No	Year	Qtm of Government Support (Rs Cr)
1	FY 03	1364
2	FY 04	1260
3	FY 05	690
4	FY 06	138
5	FY 07	0
Total		3452

A Support of Rs 3450 given to Delhi Transco for subsidizing the Power Purchase Cost to Discoms

3. How Government Support is extended (3/3)



Bearable Power Purchase Price

Sr No	Particulars	Units	NDPL or North and North West Delhi Discom	BRPL or Southwest Delhi Discom	BYPL or East and Central Delhi Discom	Total
1	Revenues at Existing Tariff	Rs Cr	1248	1745	926	3919
2	Discom Costs	Rs Cr	329	391	213	933
3	Electricity Duty		61	80	48	189
4	Bearable Power Purchase cost	Rs Cr	858	1274	665	2797
5	Power Purchase	Mus	5451	7966	5280	18697
6	Bearable Power Purchase Price	Rs/Kwh	1.57	1.60	1.26	1.50

Sr No	Particulars	Units	Value
1	Requirement of Delhi Transco	Rs Cr	4870
2	Revenue from Discom	Rs Cr	2797
3	Revenue from NDMC and MES	Rs Cr	422
4	Arrears of DVB	Rs Cr	210
5= sum(2:4)	Total Revenue	Rs Cr	3429
6=1-5	Gap	Rs Cr	1441
7	Less Government Support	Rs Cr	1260
8=6-7	Gap after Government Support	Rs Cr	181

Support in the form of loans extended to Delhi Transco

4. How the PPP has worked in Delhi



1 Dividends declared by TPDDL

Sr No	Year	Equity	Bonus Shares	New Equity	Rate of Dividend	Dividend Declared	Share of Govt
		Rs Cr	Rs Cr	Rs Cr	%	Rs Crf	Rs Cr
a	b	c	d	e=c+d	f	g= e*f	h=49%*g
1	FY 2006	368		368	10%	36.8	18.03
2	FY 2007	368		368	16%	58.88	28.85
3	FY 2008	368		368	18%	66.24	32.46
4	FY 2009	368	184	552	14%	77.28	37.87
5	FY 2014	552		552	12%	66.24	32.46
6	FY 2015	552		552	14%	77.28	37.87
7	FY 2016	552		552	14%	77.28	37.87
8	FY 2017	552		552	16%	88.32	43.28
9	FY 2018	552		552	16%	88.32	43.28
10	FY 2019	552		552	18%	99.36	48.69
11	FY 2020	552		552	24%	132.48	64.92
12	FY 2021	552	500	1052	12%	126.24	61.86
13	FY 2022	1052		1052	12%	126.24	61.86
14	FY 2023	1052		1052	15%	157.8	77.32
15	FY 2024	1052		1052	40%	420.8	206.19
16	FY 2025	1052		1052	60%	631.2	309.29
Total							1142.1

2 Loss Reduction

- AT&C Loss reduced from 53% in 2002 to about 6% in 2025

3 Other

- About Rs 7000 crores of Capital Investment
- Host of Technological Intervention towards providing better services

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