

**A. Introduction**

- 1.1 Tata Power Delhi Distribution Limited (TPDDL), the Distribution Licensee, has filed its Petition for Approval of True up for FY 2017-18 and ARR for FY 2019-20.
- 1.2 The Executive Summary contains the summary of the Petition filed by TPDDL for True up for FY 2017-18 and ARR and Tariff of FY 2019-20.
- 1.3 Aggregate Revenue Requirement (ARR) and Tariff for FY 2019-20 shall be determined based on the provisions of Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017. ARR broadly has the following components:
- Power Purchase Cost including transmission charges
  - Operation and Maintenance (O&M) expenses
  - Return on Capital Employed
  - Depreciation
  - Income Tax
  - Non-tariff Income, etc.
- 1.4 The following tables/ figures have been extracted from the Petitions filed by BYPL for ease of understanding to various stakeholders. Complete Petition is also available on DERC website <http://www.derc.gov.in/>.

**B. Truing Up for FY 2017-18**

- 1.5 TPDDL has billed Energy & Revenue (net of E. tax, 8% Deficit Recovery Surcharge & Pension Trust Surcharge of 3.70%) of Rs. 6,451.58 Cr. (8,630.87 MU) at approved Retail Supply Tariffs for FY 2017-18.

**Table- 1: Energy Sales & Revenue for FY 2017-18**

S. No.	Category	Net Units Sold	Fixed Charges Billed	Energy Charges/ other charges Billed	PPCA Amount Billed	Total	ABR	Surcharge of 8%
		MU	Rs Cr.				kWh	Rs Cr.
1	Domestic	3,947	107.25	2,049.91	(0.00)	2,157.15	5.47	172.59
2	Non-Domestic	1,528	193.78	1,379.00	0.00	1,572.78	10.29	126.31
3	Industrial	2,432	208.94	1,991.48	0.01	2,200.42	9.05	176.46
4	Agriculture	13	0.66	3.43	(0.00)	4.09	3.13	0.33
5	Public Lighting	154	-	113.44	0.03	113.46	7.37	9.17
6	Delhi Jal Board	243	10.02	182.67	0.00	192.69	7.94	15.41
7	Railway Traction	51	2.67	34.90	-	37.57	7.30	3.00
8	DMRC	155	5.25	92.43	-	97.68	6.29	7.81

S. No.	Category	Net Units Sold	Fixed Charges Billed	Energy Charges/ other charges Billed	PPCA Amount Billed	Total	ABR	Surcharge of 8%
		MU	Rs Cr.				kWh	Rs Cr.
9	Advertisement & Hoardings	1	0.28	1.01	0.00	1.30	14.28	0.11
10	E-Rickshaw	0	0.00	0.10	-	0.10	5.93	0.01
11	Actual Own Consumption	12	-	-	-	-	-	-
12	Others	94	5.69	78.53	0.04	84.26	8.94	6.73
13	(-)Open Access Charges(to be treated separately)			(9.94)		(9.94)		(1.86)
	Total	8,631	534.53	5,916.97	0.07	6,451.58	7.47	516.08
Reconciliation Statement with the Audited Form 2.1 a								
	Billed amount of Fixed Charges							534.53
	Billed amount of Energy Charges							5,916.97
	Billed amount of PPAC Charges							0.07
	Billed Amount of 8% Deficit Recovery Surcharge							516.08
	Billed amount of E. Tax							310.91
	Billed amount of Pension Trust Surcharge of 3.70%							113.79
	Total amount of Revenue Billed							7392.35

1.6 TPDDL has submitted actual T&D loss level of 8.20% for FY 2017-18 and Overachievement Incentive on account of reduction in Distribution Loss Level for the FY 2017-18 is submitted as Rs 6.98 Crs.

1.7 TPDDL has submitted Collection efficiency for FY 2017-18 and Overachievement Incentive on account of higher collection efficiency comes to Rs 14.37 Crs as DISCOM share of 50% and the benefit of the remaining 50% share as Rs 14.37 Crs as consumers share.

1.8 The Power Purchase Quantum for true up for FY 2017-18 as submitted by TPDDL is tabulated as below:

**Table- 2: Power Purchase Quantum (MUs) for FY 2017-18 as per Auditor's certificate**

S. No	Particulars	Actual Power Purchase In MUs	Remarks /Ref
A	Power Purchase:		
I	Power Purchase Quantum	10,735.71	
li	Short Term Power Purchase quantum	637.27	

lii	Short term sale of Power	(1,648.03)	
	Sub-total Power Purchase	9,724.96	(i+ii+iii)
B	Transmission Loss:		
I	Inter-State Transmission Loss	(212.09)	
li	Intra-State Transmission Loss	(111.46)	
	Sub-total Total Transmission Loss	(323.55)	(i+ii)
C	Net Power Available after Transmission Loss	9,401.41	(A+B)

1.9 The following table shows the RPO obligations as submitted by TPDDL for true up of FY 2017-18:

**Table 3: RPO obligations for FY 17-18**

Generating Stations	Energy (MU)	Amount (Rs Cr)	Av. Rate (Rs/unit)
Total Billed Sales			8,630.87
Less- units from Hydro			904.21
Balance Billed sales to be met through RPO obligation			7,726.67
Solar RPO Obligations			@ 2.75%
TPDDL Generation	2.14	3.01	14.04
*Net metering (Net Injected)	0.06	0.03	5.13
*Net Metering (Consumed)	5.78		
Less- Adjusted towards Past REC	(1.23)		
SECI	41.38	22.76	5.50
Balance Solar Energy to be purchased	164.34	18.41	1.12
Total – RPO to be met through Solar @ 2.75%	212.48	44.21	2.08
Non- Solar RPO Obligations			@ 8.75%
REC Purchase	560.52	62.78	1.12
TOWMCL	51.31	33.02	6.44
MSW Bawana	24.71	17.37	7.03
Suryakanta Hydro	33.18	12.61	3.80
Nanti Hydro	5.96	2.56	4.29
Singrauli Small Hydro	0.41	0.21	5.06
Sub Total Non-Solar @ 8.75%	676.08	128.54	1.90
TOTAL RPO	888.57	172.75	1.94

1.10 The following table shows the actual power purchase cost as submitted by TPDDL for FY true up for 2017-18:

**Table 4: Power Purchase Cost for FY 2017-18**

Particulars	Sought for Trued up based on actuals		
	(MU)	(Rs Cr)	Rs/kWh
Power Purchase from CSGS	8,916.06	3,297.74	3.70
Short Term Power Purchase	637.28	240.78	3.78
Power Purchase Delhi Gencos	1660.49	879.99	5.30

Particulars	Sought for Trued up based on actuals		
	(MU)	(Rs Cr)	Rs/kWh
RPO Obligations	159.16	91.56	5.75
Cost of REC certificate	-	81.18	
Gross Power Purchase Cost	11,372.99	4,591.27	4.04
Add: Transmission Charges			
PGCIL charges	212.09	452.97	
DTL charges (including Pension Trust)	111.46	382.96	
Other transmission charges		69.36	
Less: Surplus Power sold / Banked / UI sales	1648.03	586.31	3.56
<b>Power Purchase Cost (Audited)</b>	<b>9,401.41</b>	<b>4,910.25</b>	<b>5.22</b>
Less- Net Normative Rebate on power purchase		83.53	
Less- Rebate on account of Transmission charges		15.52	
Less- Impact of Anta Auriya & Dadri for FY 2016-17 considered as a part of FY 17-18		2.86	
Add- Differential amount towards Rithala based on True up Petition		53.74	
Add- Differential amount towards reversal of UI penalties		0.10	
Add-Incentive on Sale of Surplus Power		28.75	
Add- Amount of REC pertaining to previous year compliance		315.84	
Add- Normative additional units of power Banking @ 4/unit		3.85	
Net Power Purchase Cost	9,401.41	5,211.04	5.54

1.11 The O&M Expenses as submitted by TPDDL for FY 2017-18 with additional O&M Expenses on account of change in statutory levies & Taxes is tabulated as below:

**Table 5: Normative O&M Expenses for FY 2017-18**

Particulars	Unit	2017-18	Capacity	Capacity as on 31.03.2018	Amount (Rs. Cr.)
66 kV Line	Rs. Lakh/ckt.km	3.297	Ckt.km	960.43	31.67
33 kV Line	Rs. Lakh/ckt.km	3.297	Ckt.km		
11 kV Line	Rs. Lakh/ckt.km	0.862	Ckt.km	6,197.42	53.42
LT Line System	Rs. Lakh/ckt.km	6.372	Ckt.km	6,894.85	439.34
66/11 kV Grid S/s	Rs. Lakh/MVA	0.927	MVA	4,579.00	42.45
33/11 kV Grid S/s	Rs. Lakh/MVA	0.927	MVA		
11/04.15 kV DT	Rs. Lakh/MVA	1.326	MVA	5,830.07	77.31
<b>Total</b>					<b>644.18</b>

**Table 6: Summary of Additional O&M Expenses on account of statutory levies & Taxes**

S. No.	Nature	(Amount) Rs Cr.	Remark
<b>Statutory Levis, Taxes etc.</b>			
A	Licensee fees	0.40	
B	Land Licensee fees	4.38	
C	Interim Relief 7th Pay Commission- FRSR	75.77	
D	Impact of GST	10.93	
E	Impact of Minimum wages	19.55	
F	Financing Charges	0.45	
G	Property Tax	23.36	
H	SMS Charges	0.49	
I	DSM Expenses	5.03	
J	PRI Lines	0.37	
K	Water Charges	0.67	
L	Legal Expenses	17.08	
	<b>Total</b>	<b>158.48</b>	<b>Sum (A to L)</b>

1.12 The total Non-Tariff Income (including Income from Non Energy Business) offered by TPDDL for Truing Up for FY 2017-18 is Rs. 91.77 Cr.

1.13 The Gross Fixed Assets for the purpose of computation of RRB for FY 2017-18 is tabulated as below:

**Table 7: Detail of Actual Capitalization (Rs Cr.)**

Particulars	Amount	Remark
Provisional Trued up opening balance of Gross Fixed Assets (net of Retirement)	4,675.31	Table 69 of Tariff Order Mar, 2018
Add- Capitalization during the year	479.34	
Less- Retirement/ De-capitalization for the year	80.16	
Closing balance of Gross Fixed Assets (net of Retirement)	5,074.49	
Average Balance of Gross fixed Assets	4,874.90	

1.14 The Depreciation on Average Assets (Net of consumer contribution/grants) for FY 2017-18 is tabulated as below:

**Table 8: Depreciation on Net Fixed Assets**

S. No	Particulars	Amount Rs Cr.	Remark
A	Average Assets(net of Consumer Contribution)	4,077.28	
B	Average Depreciation Rate	4.98%	
C	Depreciation (Net of Consumer Contribution)	203.15	(A*B)

- 1.15 The Computation of Regulated Rate Base submitted by TPDDL for true up of FY 17-18 is tabulated as below:

**Table 9: Computation of Regulated Rate Base**

S. No	Particulars	Amount	Remarks
A	Opening Balance of OCFA	4,675.31	Provisionally trued up figures for FY 2016-17 as per Table 69 of Tariff Order Mar, 2018
B	Opening Balance of Working Capital	582.14	
C	Opening Balance of Accumulated Depreciation	1,768.14	
D	Opening balance of Accumulated Consumer Contribution	776.98	
E	Provisionally trued up opening RRB	2,712.33	(A+B-C-D)
	RRB - for the year		
F	Capitalization (net of retirement) during the year	399.18	Table 9
G	Net Depreciation for the year	170.50	
H	Consumer Contribution, Grants, etc. for the year	41.28	
I	Change in Working Capital	152.94	Table 12
J	RRB – Closing for the year	3,052.66	(A+B-C-D+F-G-H+I)
K	ΔAB (Change in Regulated Base)	246.64	
L	Average RRB for the purpose of ROCE	2,958.97	E+K

- 1.16 The Computation of Working Capital for FY 2017-18 submitted by TPDDL is tabulated as below:

**Table 10: Computation of working capital**

S. No	Particulars	Amount (Rs Cr)	Remark
A	ARR for Distribution business as a whole	7,016.00	Table 14
B	ARR equivalent to 2 months	1,169.33	(A/12*2)
C	Power Purchase expenses	5,211.04	Table 4
D	Less: 1/12th of power purchase expenses	434.25	(C/12*1)
E	Total working capital for the year	735.08	(B-D)
F	Less- Opening Working Capital	582.14	Table 67 of Tariff Order Mar,2018
G	Change in Working Capital for the year	152.94	(E-F)

- 1.17 For the purpose of computation of ROCE, TPDDL has submitted WACC for FY 2017-18 as below:

**Table 11: Computation of WACC and Return on Capital Employed (ROCE)**

S. No.	Particulars	Amount (Rs Cr)	Remark/Ref
A	RRB (i)	2,958.97	Table 11
B	Average Equity deployed in the business	1,146.66	
C	Average Debt including working capital	1,812.31	
D	Rate of return on equity (re)	16.00%	As per BPR, 2017
E	Normal Income Tax Rate	34.61%	
F	Grossed up Return on Equity	24.47%	
G	Rate of interest on debt (rd)	8.84%	
H	WACC	14.90%	$(B \times F + C \times G) / (B + C)$
I	RoCE (Return on Capital Employed)	440.77	A * H

1.18 The Aggregate Revenue Requirement for FY 2017-18 as submitted by TPDDL is as below:

**Table 12: Summary of Aggregate Revenue Requirement**

S. No	Particulars	Approved ARR (In Rs Cr.)	Amount sought for True up (in Rs Cr)	Remark
A	Power Purchase cost (incl. Transmission charges)	5196.81	5,211.04	Table 4
B	O&M Expenses	648.92	644.18	Table 5
C	Other expenses/Statutory levies		158.48	Table 6
D	Depreciation	160.90	203.15	Table 10
E	Loss on Retirement		36.23	
F	Return on Capital Employed (RoCE)	379.59	440.77	Table 13
G	Carrying Cost	196.54	413.93	Table 17
H	Less: Non-tariff income	133.25	(71.27)	Table 8
I	Less- Interest on Consumer Security Deposit		(5.98)	Table 7
J	Less- Income from Non Energy Business		(3.58)	Table 7
K	Less- Income from Open Access		(10.94)	Table 7
L	Aggregate Revenue Requirement	6,449.51	7,016.00	

1.19 The Revenue Surplus/ (Gap) for the FY 2017-18 is tabulated as below:

**Table 13: Computation of Revenue surplus/ (Gap) for FY 17-18**

S. No	Particular	Actual as per Petitioner (In Rs Cr.)	Remarks
A	Revenue Available towards ARR net of Incentives	6,405.63	
B	Aggregate Revenue Requirement without carrying cost	6,602.07	Table 14
C	Revenue Surplus/(Gap)	(196.44)	(A-B)

- 1.20 The Computation of Carrying Cost and Closing Revenue Gap for FY 2017-18 is tabulated below:

**Table 14: Pension Trust Deficit sought in true up ARR for FY 17-18:**

S. No	Particular	Actual as per Petitioner	Remarks
A	Total amount payable to Pension Trust for the year	235.00	
B	Less- Amount already paid to pension trust through DTL	74.62	
C	Net amount paid directly to Pension Trust	160.38	(A-B)
D	Amount collected through 3.70% pension trust	109.90	
E	Deficit to be allowed for the year	50.48	(C-D)

**Table 15: Computation of closing Revenue Gap for FY 2017-18**

S. No	Particulars	Amount (in Rs Cr)	Remarks
A	Opening Provisional trued up Revenue Gap	(2,394.61)	Table 146 of Tariff Order, Mar 2018
B	Additional Impact of prior period issues	(1,446.77)	
C	Revised Opening Revenue Gap	(3,841.38)	(A+B)
D	Add: Revenue Gap sought for the year	(196.44)	Table 15
E	Add: Pension Trust Amount	(50.48)	Table 16
F	Carrying Cost Rate	10.37%	
G	Add: Carrying Cost	(413.93)	$(C+(D+E)/2)*F$
H	Total of Revenue Gap	(4,502.23)	(A+B+D+E+G)
I	Less- Realization from 8% Deficit recovery surcharge	514.51	
J	Closing Revenue Gap	(3,987.72)	(H+I)



**C. ARR for FY 2019-20**

1.21 TPDDL has submitted its Estimated Billed Revenue for FY 2019-20 as below:

**Table 16: Estimated Billed Revenue for FY 19-20**

Categories	FY 2019-20			
	Billed Units(MU)	Fixed Charges Rs Cr.	Energy Charges Rs Cr.	Total Revenue Rs Cr.
Domestic	4,469	549	1,905	2,453.45
Non Domestic	1,691	406	1,404	1,810.08
Industrial	2,710	448	2,057	2,505.48
Irrigation & Agriculture	19	4	3	7.02
Street Lighting	121	28	70	97.73
Delhi Jal Board	248	20	144	164.52
DMRC	82	3	47	49.72
Railway	0	0	0	0.00
Own Consumption	24	0	0	0.00
Advertisement	1	0	1	0.84
E- Rickshaw	4	0	2	2.04
Others	101	15	56	70.80
<b>Total</b>	<b>9,468.52</b>	<b>1,474.14</b>	<b>5,687.54</b>	<b>7,161.68</b>
<b>8% Deficit Revenue Surcharge</b>				<b>572.93</b>

1.22 TPDDL has submitted its Estimated Energy Requirements for FY 2019-20 as below:

**Table 17: Estimated Energy Requirements**

S. No	Particulars	UoM	Amount Rs Cr	Remark
A	Expected Sales	MU	9,468.52	Table 18
B	Distribution Loss	%	8.00%	
C	Energy Input (at TPDDL periphery)	MU	10,291.87	$((A/(1-B))*100)$
D	Distribution Loss	MU	823.35	

1.23 Based on the above estimation of energy requirement, Power Purchase Cost for FY 2019-20 is estimated as below:

**Table 18: Energy Balance Summary and Power Purchase Cost for FY 19-20**

S. No	Particulars	FY 2019-20		
		Quantity (MU)	Amount (Rs. Crore)	Average Cost (Rs./kWh)
1	Power Purchase from CSGS	9,407.42	3,922.08	4.17
2	Short Term Power Purchase	888.00	364.97	4.11

S. No	Particulars	FY 2019-20		
		Quantity (MU)	Amount (Rs. Crore)	Average Cost (Rs./kWh)
3	Power Purchase from SGS	1,227.95	744.05	6.06
4	Renewable Energy Plants and small Hydro	418.55	200.62	4.79
5	Cost towards Renewable Energy Certificates		118.31	
6	Power Available at Delhi Periphery (cost excluding RECs)	11,941.92	5,350.03	4.48
7	PGCIL Losses & Charges	(396.60)	467.00	
8	DTL Loss & Transmission Charges		414.17	
9	Power Purchase Rebate @ 2%		93.52	
10	Rebate on Transmission Charges @ 2%		15.93	
11	Power Available to DISCOM	11,545.32	6,121.94	5.30
12	Sales	9,468.52		
13	Distribution Loss	823.35		
14	Net Power Purchase cost including Transmission charges and REC	10,291.87	5,651.90	5.49
15	Net Surplus Power (Table )	1,253.45	470.04	3.75

1.24 TPDDL has sought O&M expenses along with additional Expenses on account of change in statutory levies & Taxes as shown below:

**Table 19: Approved O&M Expenses for FY 2019-20**

Particulars	*Capacity as on 31.03.2020 (as submitted in Business Plan)	O&M Expenses Per Unit		O&M Expenses In Rs Cr.
66 kV Line (kms)	1064	Rs. Lakh/Ckt. Km	3.678	39.13
33 kV Line (kms)		Rs. Lakh/Ckt. Km	3.678	
11 kV Line (kms)	6244.41	Rs. Lakh/Ckt. Km	0.961	60.01
LT Lines system (kms.)	7099.86	Rs. Lakh/Ckt. Km	7.107	504.59
66/11 kV Grid sub-station (MVA)	5283.50	Rs. Lakh/MVA	1.034	54.63
33/11 kV Grid sub-station (MVA)		Rs. Lakh/MVA	1.034	
11/0.4 kV DT (MVA)	6007.79	Rs. Lakh/MVA	1.479	88.86
<b>Total of O&amp;M Expenses</b>				<b>747.22</b>
Add- Statutory levies / Taxes Based on additional Expense sought in FY 2018-19 further grossed up with inflation	To be trued up on actual basis (computed based on estimated expenses for FY 2018-19)			134.60
<b>Total O&amp;M Expenses including additional expenses</b>				<b>881.82</b>

\*Capacity subject to change based on actuals

1.25 TPDDL has submitted capitalization for FY 2019-20 as below:

**Table 20: Approved Capitalization for FY 2019-20**

Particulars	Amount Rs Cr.
Capitalization including deposit work	414
Smart Meter	66
Total Capitalization without deposit work	430
Add: Deposit Work	50
Total	480

1.26 TPDDL has submitted its Computation of Change in Working Capital for FY 2019-20 as below:

**Table 21: Computation of Change in Working Capital**

S. No	Particulars	Amount in Rs Cr		Remark
		FY 19-20		
A	Annual revenues requirement	7,648.66		Table 26
B	Receivables equivalent to 2 months ARR		1,274.78	A/12*2
C	Power Purchase expenses	5,651.90		Table 20
D	Add: 1/12th of power purchase expenses		470.99	C/12
E	Total working capital		803.79	B-E
F	Opening working capital		766.91	
G	Change in working capital		36.88	(E-F)

1.27 TPDDL has submitted its Computation of Return on Capital Employed for FY 2019-20 as below:

**Table 22: Computation of Return on Capital Employed**

S. No	Particulars	Amount Rs Cr.	Remarks
A	Opening Balance of OCFA	5,554.49	
B	Opening Balance of Accumulated Depreciation	2,161.31	
C	Opening Balance of Accumulated Consumer Contribution	868.26	
D	Opening balance of working capital	766.91	
E	RRB – Opening	3,291.82	
F	Capitalization during the year	480.00	
G	Depreciation for the year (Including AAD)	244.08	
H	Consumer Contribution, Grants,	50.00	
I	Change in Working Capital	36.88	
J	ΔAB (Change in Regulated Base)	129.84	
K	RRB – Closing	3,440.86	

L	RRB (i)	3,421.66	
M	WACC	15.79%	
N	Return on Capital Employed	540.11	(L*M)

1.28 The Non-Tariff Income estimated by TPDDL for FY 2019-20 is tabulated below:

**Table 23: Non-Tariff Income**

S. No	Particulars	Amount Rs Cr.
C	Non-Tariff Income	91.78

1.29 The summary of ARR requirement for FY 2019-20as submitted by TPDDL is as below:

**Table 24: Summary of Aggregate Revenue Requirement**

S. No	Particular	Amount Rs Cr.	Remarks
A	Cost of Power Purchase	5,651.90	Table 20
B	O&M Expenses	881.82	Table 21
C	Depreciation	244.08	
D	Return on Capital Employed	540.11	Table 24
E	Carrying Cost	422.54	Table 28
F	Less: Non-Tariff Income	91.78	Table 25
H	Annual Revenue Requirement	7,648.66	

1.30 The Computation of Revenue (Gap) for FY 2019-20 without carrying cost is below:

**Table 25: Computations of Revenue (Gap) for the year without carrying Cost**

S. No	Particular	Amount Rs Cr.	Remarks
A	Aggregate Revenue Requirement for the year without carrying cost	7,226.12	Table 26
B	Revenue available for the year without DRS	7,125.88	
C	Revenue (Gap)/surplus for the year	(100.25)	(B-A)

1.31 The Computation of Closing Revenue Gap for FY 2019-20 as submitted by TPPDL is tabulated below:

**Table 26: Computations of Closing Revenue Gap**

S. No	Particular	Amount Rs Cr.	Remarks
A	Opening Revenue Gap	(3,799.56)	
B	Revenue (Gap)/Surplus for the year	(100.25)	Table 27
C	Closing Revenue (Gap)	(3,899.81)	(A+B)

S. No	Particular	Amount Rs Cr.	Remarks
D	Carrying Cost Rate	10.98%	
E	Carrying Cost	(422.54)	$(A+B/2)*D$
F	Recovery of carrying cost from 8% Deficit Revenue Recovery Surcharge	570.07	99.50% of 8% DRS
G	Closing Revenue Gap (including carrying cost)	(3,752.28)	$(A+B+E+F)$