

#### **4. Revised ARR for FY 2018-19**

The Hon'ble Commission has notified the Delhi Electricity Regulatory Commission (**TERMS AND CONDITIONS FOR DETERMINATION TARIFF) REGULATIONS, 2017** on **02.02.2017** to be read with **BUSSINES PLAN REGULATIONS, 2017**.

Based on the said Regulations, the Hon'ble Commission has approved ARR for FY 2018-19 on estimated basis in the Tariff Order March 2018 against which the Petitioner is submitting the revised estimates based on actuals for 3-5 Months and for balance period projection are revised based on actual growth in FY 2018-19.

#### **Estimated Energy Sales for FY 18-19**

The Petitioner has estimated energy sale of 9178 MU for FY 2018-19 against the approved energy sale of 8,870 MU. While estimating the energy sale for FY 2018-19, the Petitioner has first computed the first 5 months actual growth (in FY 2018-19) over the corresponding previous year period of first 5 months of FY 2017-18 of energy billed. Thereafter applied the same growth of energy billed on the remaining 7 months of FY 17-18 for estimating next 7 months billed sale for FY 2018-19. The above forecasting has been done keeping in mind the same economic conditions dynamics that would prevail and the same consumption trends would continue in the remaining 7 months.

**Table 4.1: Estimated energy sales & revenue billed for FY 18-19**

Categories	5 months Actuals (FY 17-18)	5 months Actuals (FY 18-19)	Growth	7 months Actuals (Sep'17 to Mar'18) Units MU	7 months Estimated (Sep'18 to Mar'19) Units MU	FY 2018-19 (Estimated)	
	Units (MU)	Units (MU)		Units MU	Units MU	Units (MU)	Revenue (Rs Cr)
	A	B				F=B+D	G
Domestic	2072	2213	6.78%	1874	2003	4216	2227.50
Non domestic	699	742	6.13%	829	879	1622	1766.72
Industrial	979	1059	8.23%	1454	1573	2633	2446.83
Agriculture	5	7	39.17%	8	11	18	7.04
Public lighting	58	44	-24.06%	96	77	121	100.45
Delhi Jal Board	95	95	-0.29%	147	147	243	163.78
Railway Traction	21	4		30	-	4	4.74
DMRC	64	121	89.18%	91	90	211	130.09
Own consumption	8	11		4	16	27	0.00
Advertisement & Hoarding	0	0	-1.79%	1	1	83	
Others	43	27	-38.21%	51	56	103	68.72
<b>Total</b>	<b>4,045</b>	<b>4,323</b>	<b>6.86%</b>	<b>4,586</b>	<b>4,855</b>	<b>9178</b>	<b>6,915.88</b>
Add- Estimated recovery through PPAC							72.34
Add- Estimated Recovery through 8% DRRS							554.38

### Collection efficiency

The Hon'ble Commission has approved collection target of 99.50% for the 3<sup>rd</sup> MYT Control period vide Regulations 26(1) of Delhi Electricity Regulatory Commission Business Plan Regulation, 2017. Relevant extract of the same is given below:

### **26. TARGET FOR COLLECTION EFFICIENCY**

(1) The targets for Collection Efficiency for FY 2017-18 to FY 2019-20 of the Distribution Licensees shall be 99.50%.

Based on above, collection efficiency at 99.50% level is considered for FY 2018-19.

**Table 4.2: Estimated Energy Collection for FY 2018-19**

(Rs. Cr)

S. No	Particulars	Amount	Remark
A	Estimated Billing at Current Tariffs – including PPAC of Rs 72. 34 Cr.	6,988.21	Table 4.1
B	Collection Efficiency –as per BPR, 2017	99.50%	
C	Estimated Collection	6,953.27	(A*B)

### Target for Distribution Loss Level

The Hon'ble Commission in its Business Plan Regulations, 2017 has approved distribution loss reduction targets for the 3<sup>rd</sup> MYT Control period as mentioned in table below in terms of Regulation 4(9)(a) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 :

**Table 4.3: Approved distribution loss level for 3<sup>rd</sup> MYT Control Period**

Category	FY 2017-18	FY 2018-19	FY 2019-20
Approved Distribution Target Loss level	8.38%	8.19%	8.00%
Year on Year reduction in distribution loss level		0.19%	0.19%

Based on the target distribution loss level of 8.19% for FY 2018-19, the energy requirement at TPDDL periphery comes to 9,996.19 MU for FY 2018-19.

**Table 4.4: Estimated Energy Requirements for FY 18-19**

S. No	Particulars	UoM	FY 18-19	Remark
A	Expected Sales	MU	9,177.50	Table 4.1
B	Distribution Loss	%	8.19%	
C	Energy Input (at TPDDL periphery)	MU	9,996.19	$((A/(1-B))*100)$
D	Distribution Loss	MU	818.69	C-A

### **Power Purchase Projections for FY 18-19**

For estimating the power purchase cost for FY 2018-19, the actual invoices billed by the Generating/Transmission companies for the period Apr'18 to Jun'18 have been considered. However, for the period Jul'18 to Mar'19, the projections are based on the estimated availability, Fixed Cost and Variable Cost.

### **Energy availability and applicable charges from Delhi Gencos:**

1. Total Energy availability has been considered based on 3 months actuals of Q1 of 2018-19 and for remaining period Jul'18 to Mar'19, the actual units received from Delhi Genco stations in 2017-18 have been increased by 4% and the actual generation received till Q1 of 2018-19 has been reduced from the same for the purpose of estimation of energy of the remaining 3 quarters i.e. Q2 to Q4 of 2018-19. The increase of 4% is based on the past 2 years increase in demand which is 4.90% for FY 2016-17 over FY 2015-16 and 4.0% for FY 2017-18 over FY 2016-17. Therefore, a 4% escalation over the year 2017-18 has been considered for 2018-19. Being must run stations they are devoid of any scheduling from the Discom end.
2. Fixed charges & Variable charge per unit of Q1 have been used for projecting the power purchase Cost for the remaining year. The fixed and variable cost for 3 months is considered on actual billed basis and for rest of the period (i.e. Jul'18 to Mar'19) for each generating station, actual average 3 months variable cost & fixed cost has been considered.
3. Badarpur Thermal Power Station has been considered till end of Sep'18 due to permanently shut down of the Plant.

Accordingly, the estimated energy availability from the Delhi Gencos along with the estimated cost is detailed in the table as under:

The estimated energy availability from the Delhi Gencos along with the estimated cost is detailed in the table as under:

Table 4.5: Projected net energy available from Delhi Gencos for FY 18-19

Delhi State Gencos	FY 2018-19			FY 2018-19		
	12 months (Projected by Hon'ble Commission)			12 months (Actual + estimated)		
	MUs	(Rs Cr)	Av. Rate	MUs	(Rs Cr)	Av. Rate
BTPS	197	93.97	4.77	343.53	184.34	5.37
GTPS	53	57.99	10.94	233.15	152.72	6.55
Pragati – I	159	101.14	6.36	388.93	220.93	5.68
Pragati – III	368	237.74	6.46	763.23	405.26	5.31
Rajghat Power House				(1.92)	(0.73)	3.78
<b>Total</b>	<b>777.00</b>	<b>490.84</b>	<b>6.32</b>	<b>1,726.91</b>	<b>962.51</b>	<b>5.57</b>

### Energy Availability from the Central Sector Generating Stations

Total Energy availability has been considered based on 2017-18, the same has been escalated by 4% for 2018-19 with the following exceptions:

1. Generation from Renewable plants, Nuclear & Hydro plants (NTPC, SJVN, THDC) has been assumed to be equal to what was generated in FY 17-18.
2. The units from Rihand 3 and Salal have been considered 'NIL'. The units from Aravali, NTPC-Dadri-1, and Dadri-2 have been considered as 4 times of what has been received in Q1 of 2018-19 to make it in line with the allocation order dated 27<sup>th</sup> March 2018 of the Hon'ble DERC. In line with the order, Sasan has also been considered as actuals for Q1 of 2018-19 and for the remaining months of 2018-19 has been considered as 15.34% for July'18 to Oct'18 and 6.14% for Nov'18 to Mar'19 of the total availability.
3. New plant NTPC Meja Urja has been considered for H2 of FY 2018-19. The same has been considered as 30 MW at a total cost of Rs. 5/- per unit. Being a new plant the same is shown separately in Table 2 below though it is part of the NTPC stations only.

The projected availability and the estimated cost of the CSGS are given in the Table as under:

Table 4.6: Projected energy available from CSGS

S. No	Particulars	Energy (MU)	Total Cost (Rs. Cr.)	Avg. Rate (Rs./kWh)	Energy (MU)	Total Cost (Rs. Cr.)	Avg. Rate (Rs./kWh)
<b>A</b>	<b>NTPC</b>						
<b>1</b>	Anta Gas Power Station	54.5	21	3.85	1.50	7.87	52.62

S. No	Particulars	Energy (MU)	Total Cost (Rs. Cr.)	Avg. Rate (Rs./kWh)	Energy (MU)	Total Cost (Rs. Cr.)	Avg. Rate (Rs./kWh)
2	Auraiya Gas Power Station	40.2	22.96	5.71	1.99	10.73	54.02
3	Dadri Gas Power Station	86.38	37.98	4.40	10.60	8.30	7.83
4	FARAKKA	31	11.71	3.78	29.10	9.33	3.21
5	KAHALGAON - I	106	36.3	3.42	69.34	22.75	3.28
6	NCPP - DADRI	33.48	17.01	5.08	78.77	33.84	4.30
7	RIHAND - I	211	45.08	2.14	229.76	49.42	2.15
8	RIHAND - II	271	54.05	1.99	295.33	58.98	2.00
9	SINGRAULI	319	63.99	2.01	309.89	62.11	2.00
10	UNCHAHAH - I	32	13.75	4.30	31.87	12.66	3.97
11	UNCHAHAH - II	63	26.18	4.16	68.82	26.66	3.87
12	UNCHAHAH - III	39	18.28	4.69	44.54	20.63	4.63
13	KAHALGAON - II	339	114.15	3.37	267.74	88.75	3.31
14	DADRI EXTENSION	37.68	20.66	5.48	61.79	29.97	4.85
15	ARAVALI	2932	1573.21	5.37	2,796.91	1,514.61	5.42
	<b>Sub-Total NTPC</b>	<b>4,595.24</b>	<b>2,076.31</b>	<b>4.52</b>	<b>4,297.94</b>	<b>1,956.60</b>	<b>4.55</b>
<b>B</b>	<b>NHPC</b>						
1	BAIRA SIUL	26	6.3	2.42	19.96	4.40	2.21
2	CHAMERA - I	40	12.24	3.06	54.96	11.12	2.02
3	CHAMERA - II	61	16.76	2.75	59.05	11.21	1.90
4	CHAMERA - III	42	18.35	4.37	40.20	17.07	4.25
5	DHAULIGANGA	46	16.66	3.62	45.04	11.75	2.61
6	DULHASTI	75	55.17	7.36	89.09	42.66	4.79
7	TANAKPUR	18	7.93	4.41	11.87	6.17	5.20
8	URI	88	19.64	2.23	76.55	12.18	1.59
9	SEWA - II	22	11.32	5.15	27.05	15.77	5.83
10	Uri - II	46	30.03	6.53	48.32	23.60	4.88
11	Parbati - III	37	18.04	4.88	27.17	16.13	5.94
	<b>Sub-Total NHPC</b>	<b>501.00</b>	<b>212.44</b>	<b>4.24</b>	<b>499.27</b>	<b>172.07</b>	<b>3.45</b>
<b>C</b>	<b>NCPP</b>						
1	RAPS - 5 & 6	75	25.56	3.41	122.24	48.41	3.96
2	NPCIL - NAPS	97	22.98	2.37	107.46	32.37	3.01
	<b>Sub-Total Nuclear</b>	<b>172.00</b>	<b>48.54</b>	<b>2.82</b>	<b>229.69</b>	<b>80.78</b>	<b>3.52</b>
<b>D</b>	<b>Other Stations</b>						
1	TEHRI HEP	51	38.69	7.59	57.05	30.36	5.32
2	SJVNL	175	39.81	2.27	204.01	50.82	2.49
3	KOTESHWAR	35	13.22	3.78	37.94	13.94	3.68
4	Mejla unit - 6	217	68.1	3.14	153.41	57.15	3.73

S. No	Particulars	Energy (MU)	Total Cost (Rs. Cr.)	Avg. Rate (Rs./kWh)	Energy (MU)	Total Cost (Rs. Cr.)	Avg. Rate (Rs./kWh)
5	Meja Urja				131.40	65.70	5.00
6	DVC Chandrapur (Ext. 7 & 8)	651	158.56	2.44	631.25	209.57	3.32
7	Haryana CLP Jhajjar (LT-5)	570	257.14	4.51	591.87	293.03	4.95
8	MPL	2089	740.92	3.55	1,845.95	674.76	3.66
9	Tala HEP	30	6.48	2.16	27.10	5.85	2.16
10	Sasan UMPP	400	51.61	1.29	451.48	59.83	1.33
	<b>Others Total</b>	<b>4,218.00</b>	<b>1,374.53</b>	<b>3.26</b>	<b>4,131.45</b>	<b>1,461.03</b>	<b>3.54</b>
	<b>Grand Total</b>	<b>9,486.24</b>	<b>3,711.82</b>	<b>3.91</b>	<b>9,158.35</b>	<b>3,670.48</b>	<b>4.01</b>

### RPO Compliance

TPDDL has always been proactive in its approach towards providing clean and reliable energy to the consumers in its area at the most competitive rates. TPDDL initiated its journey towards a cleaner and greener Delhi even before RPO obligation was mandated by Hon'ble Commission.

The Hon'ble Commission has mandated the following to be met as percentage of RPO compliance for FY 2018-19

Year	Solar RPO %	Non Solar RPO %	Total RPO (%)
2018-19	4.75%	9.50%	14.25%

The existing renewable power available from various tied up sources is given as follows which also includes power purchase cost of Singrauli Small Hydro plant which is not included in the tariff order dated 28.03.2018 of Delhi Electricity Regulation Commission, the agreement of which has been approved by the Hon'ble Commission .

Row Labels	Mus	Energy Charges in Rs Crores	Rs./kwh
TPDDL Solar	2.23	2.96	13.28
SECI	41.38	22.72	5.49
DMSWSL	24.71	17.37	7.03
TOWMCL	51.31	33.02	6.44
SHEPL	33.18	12.61	3.80
NHPPL	14.03	6.02	1.82
Singrauli Small Hydro	5.11	2.58	0.42
<b>Total</b>	<b>171.95</b>	<b>97.27</b>	<b>5.32</b>

In order to meet the RPO compliance, the Petitioner has to purchase REC certificates. Given below is the computation of amount required for purchase of REC.

**Table 4.7: Summary of RPO Obligation for FY 2018-19**

S. No	Sources of Renewable Energy	Quantity to be Purchased (MU)	(Rs./kWh)	Total Cost (Rs. Crore)	Quantity to be Purchased (MU)	(Rs./kWh)	Total Cost (Rs. Crore)
As Approved in Tariff Order					Revised		
	Billed Sales (net of Hydro)				8352.13		
	Solar Obligation %		4.75%		4.75%		
	Solar Obligation MU		421.40		396.73		
1	Own Solar	2	5.50	1.1	2.23	13.28	2.96
2	Solar (SECI)	40	5.50	22.0	41.38	5.50	22.71
3	Balance Solar Energy to be purchased	379.40	2.4	91.05	353.11	1.12	39.55
	<b>Sub Total</b>	<b>421.40</b>		<b>114.15</b>	<b>396.73</b>		<b>65.22</b>
<b>NON SOLAR</b>							
	Non Solar Obligation %		9.50%		9.50%		
	Non Solar Obligation MU		842.80		793.45		
4	TOWMCL	50	2.75	13.74	51.31	6.44	33.02
5	MSW Bawana	43	7.03	30.23	24.71	7.03	17.37
6	SHEPL	160	4.20	67.20	33.18	3.80	12.61
7	NHPPL				14.03	4.29	6.02
8	Singrauli Small Hydro				5.11	5.04	2.58
9	Balance Non Solar RECs to be purchased	589.80	1.50	88.47	665.11	1.12	74.49
10	<b>Sub Total</b>	<b>842.80</b>		<b>199.64</b>	<b>793.45</b>		<b>146.08</b>
11	<b>Total RPO</b>	<b>1264.20</b>		<b>313.80</b>	<b>1190.18</b>		<b>211.30</b>

### **Power Purchase estimation from Other Sources: Intra State, Short Term Bilateral & Banking**

Other than power availability against the Long Term PPAs, TPDDL makes Bilateral arrangements such as short term purchases from exchange/ IDT/ /Banking arrangements to meet its 100% energy requirements. Long Term tie-ups for meeting the peak load demand for full year is not an economically viable proposition. Further, short term arrangement needs to be made to balance the demand and supply on day to day basis and that too on 15 minutes time intervals basis.

Short term bilateral / banking arrangements already done from Apr'18 to Jun'18 have been considered as per actuals. For the remaining period, the following assumptions has been considered:

1. IDT & IEX has been prorated based on the actual purchase of Q1 FY 2018-19.
2. DSM has been kept same as in FY 2017-18.
3. Banking Import has been considered as per the actuals exports of FY 2017-18. Further, banking has been booked at Rs. 4.00/- per unit against the units exported in 2017-18 which are being received now to make it revenue neutral.
4. IEX has been considered at Rs.4.0/- per unit for the entire year.
5. IDT has been considered at Rs.4.10/- per unit for the entire year.

Power Purchase from Short term bilateral / banking arrangements has been considered as per table given below:

**Table 4.8: Projected Power Purchase from Other Sources**

Other Sources	Projection FY 18-19 (TPDDL)		
	MUs	(Rs Cr)	Av. Rate
<b>Power Purchase from Other Sources</b>			
Banking Purchase	1067.16	426.88	4.00
DSM Purchase	50.43	15.82	3.14
IEX Purchase	162.98	65.22	4.00
IDT Purchase	42.52	17.43	4.10
<b>Total of short Term Power Purchases</b>	<b>1323.09</b>	<b>525.35</b>	<b>3.97</b>



**Short Term Power Sale**

The Petitioner has projected 1,924.13 MU of surplus power @ average rate of 3.99 per unit. The short term surplus power was sold through available mechanisms i.e. banking, bilateral sale, exchange and UI.

Short term bilateral / banking / Sale arrangements already done from Apr'18 to Jun'18 have been considered as per actuals.

1. IDT & IEX has been prorated based on the actual sale of Q1 FY 2018-19.
2. DSM has been kept as same as in FY 2017-18.
3. Banking export has been considered as per the actuals exports tied up for FY 2018-19. Further, banking has been booked at Rs. 4.11/- per unit in line with the average Power Purchase Cost approved by the Hon'ble DERC for FY 2018-19 in its Tariff Order of 28<sup>th</sup> March 2018.
4. Bilateral sale has been considered as per the actuals tied up/ Tata Power DDL expecting LOI for FY 2018-19.

The Sale rate for IEX & IDT has been considered as per actual rate achieved in Q1 of 2018-19 for IEX i.e. Rs. 4.01 per unit. (IDT rate has been increased by 20 Paise per unit over the IEX rate). Accordingly the projected short term sale is as considered below:-

**Table 4.9: Projected Short term sale**

Particulars	Mus	Energy Charges	Rs./kwh
Banking Sale	888.80	365.30	4.11
Bilateral sale	114.04	45.62	4.00
DSM Sale	71.59	14.22	1.99
IDT Sale	53.40	22.53	4.22
IEX Sale	796.29	319.29	4.01
<b>Total</b>	<b>1,924.13</b>	<b>766.97</b>	<b>3.99</b>

**Transmission Charges**

- The transmission losses for the period Apr'18 to Jun'18 have been taken on actual basis and for the remaining 9 months period it has been considered on prorated basis.
- The transmission charges for the period Apr'18 to Jun'18 have been taken on actual basis and for the remaining 9 months period it has been escalated.
- Apart from the above, the Short Term Open Access charges are required to be paid for purchase of power from the delivery point which varies from contract to contract. The actual STOA charges paid from Apr'18 to Jun'18 have been included as per actuals. However, STOA charges pertaining to the remaining period is as per the actual STOA per unit rate of Q1 of FY 2018-19.

**Table 4.10: Transmission charges****(Rs. Cr.)**

Particulars	Amount
<b>Total Transmission Charges</b>	858.27

**Normative Rebate**

Normative rebate of 2% has to be considered on net power purchase cost. Computation of Maximum Normative Rebate is given below

**Table 4.11: Computation of Normative Rebate**

Gencos	Maximum rebate %	Amount (In Rs Cr)
<b>State Generating Stations</b>		
NTPC (BTPS)	2%	3.69
Delhi State Gencos	2%	15.56
<b>Central Generating Stations</b>		
NTPC	2%	39.13
NHPC	2%	3.44
NPCIL	2%	1.62
Others	2%	29.22
<b>Transmission</b>		
Transmission	2%	14.90
<b>Total</b>		<b>107.56</b>

Based on the above the maximum normative rebate of Rs 107.56 Cr has been projected.

### Estimated Power Purchase Cost for FY 2018-19

Based on the above submission, Revised Power Purchase cost for FY 2018-19 is given below:

**Table 4.12: Energy Balance Summary and Power Purchase Cost for FY 18-19**

Sr.	Particulars	Approved for FY 2018-19			Revised for FY 2018-19		
		Quantity (MU)	Amount (Rs. Crore)	Average Cost (Rs./kWh)	Quantity (MU)	Amount (Rs. Crore)	Average Cost (Rs./kWh)
1	Power Purchase from CSGS (Table 4.6)	9,486.24	3,711.82	3.91	9,158.35	3,670.48	4.01
2	Short Term Power Purchase (Table 4.8)				1,323.09	525.35	3.97
3	Power Purchase from SGS (Table 4.5)	777.00	490.84	6.32	1,726.91	962.51	5.57
4	Renewable Energy Plants (Table 4.7)	295.00	134.27	4.55	171.95	97.26	5.66
5	Cost towards Renewable Energy Certificates (Table 4.7)		179.53			114.04	
6	PY Arrears					77.15	
7	Total Power Purchase	10,558.24	4,516.46	4.28	12,380.32	5,446.79	4.40
8	PGCIL Losses & Charges (Table 4.10)	-156.52	467.76			410.33	
9	DTL Loss & Charges Including Pension trust, SLDC charges (Table 4.10)	-95.61	327.85		(460.00)	447.94	
10	Power Purchase Rebate @ 2% (Table 4.11)		86.74			92.66	
11	Rebate on Transmission Charges @ 2% (Table 4.11)		15.85			14.90	
12	Power Available to DISCOM	10,306.11	4,741.72	4.60	11,920.32	6,197.50	5.20
13	Sales (Table 4.1)	8869.59			9,177.50		
14	Distribution Loss (Table 4.2)	791.22			818.69		
15	Net Power Purchase cost including Transmission charges and REC	9,660.81	4,548.18	4.71	9,996.19	5,430.53	5.43
16	Net Surplus Power (Table 4.9)	645.30	193.59	3	1,924.13	766.97	3.99

**Operation & Maintenance Expenses for FY 2018-19**

The Hon'ble Commission in its Business Plan Regulations, 2017 has notified the norms for the allowance of Operation and Maintenance expenses in terms of Regulation 4(3). The Hon'ble Commission in its Tariff Order FY 2018-19 has approved normative O&M expenses of Rs. 695.79 Cr. In addition to this an amount of Rs 127.45 Cr has been sought additionally based on additional expenses incurred in FY 2017-18.

**Table 4.13: Approved O&M Expenses for FY 2018-19****(Rs Cr)**

Table 4.15: Approved O&M Expenses for FY 2018-19 (Rs Cr)				
Particulars	*Capacity as on 31.03.2019 (As submitted in Business Plan)	O&M Expenses Per Unit as approved		O&M Expenses (Rs. Crore)
66 kV Line (kms)	981	Rs. Lakh/Ckt. Km	3.482	34.16
33 kV Line (kms)		Rs. Lakh/Ckt. Km	3.482	
11 kV Line (kms)	6119.41	Rs. Lakh/Ckt. Km	0.91	55.69
LT Lines system (kms.)	7029.86	Rs. Lakh/Ckt. Km	6.73	473.11
66/11 kV Grid sub-station (MVA)	5113.5	Rs. Lakh/MVA	0.979	50.06
33/11 kV Grid sub-station (MVA)		Rs. Lakh/MVA	0.979	
11/0.4 kV DT (MVA)	5912.79	Rs. Lakh/MVA	1.4	82.78
Total (excluding impact of statutory levies)				695.79
Add- Statutory levies/ Taxes	Statutory levies/other Initiatives of FY 2017-18 (net of one time impact of 7 <sup>th</sup> pay arrears is grossed up with 5.61% inflation)			127.45
Total amount approved towards O&M Expenses				823.25

It is further mentioned that the \*capacity considered for computation of O&M expenses are subject to change based on actual capitalization.

### Capitalization

The Hon'ble Commission in its Business Plan Regulations, 2017 has approved tentative capitalization of Rs 430 Cr. (excluding Rs. 50 Cr towards Capital Deposit).

**Table 4.14: Approved Capitalization for FY 2018-19**

Particulars	Rs. Crore
Capitalization	414
Smart Meter	66
Less: Deposit Work	50
<b>Total</b>	<b>430</b>

It is worth to mention that the deposit works are also treated as a part of capitalization, hence the revised capitalization based on Business Plan Regulation's, 2017 and as per Tariff Order August, 2017 is given below:

**Table 4.15: Revised Capitalization considering Deposit work for FY 2018-19**

Particulars	Rs. Crore
Capitalization without deposit work	364
Smart Meter	66
Deposit Work	50
<b>Total</b>	<b>480</b>

Considering the revised capitalization of Rs. 480 Cr, gross block of fixed assets works out as follows:

**Table 4.16: Capitalization of Fixed Assets**

(Rs Cr)

S. No	Particulars	Amount	Remark
A	Opening Balance	5,074.49	Table 3.48
B	Addition during the year	480.00	Table 4.15
C	Deletion during the year*		
D	Closing Balance	5,554.49	(A+B-C)
E	Average Balance of Fixed Assets	5,314.49	(A+D)/2

\*No deletion has been considered

### Contributions, Grants, subsidies towards cost of Capital Assets

The contribution towards cost of capital assets is transferred to sources of funds in the balance sheet when the assets for which such contribution is received are capitalized.

The Hon'ble Commission has estimated that Rs 50 Cr will be capitalized towards consumer contribution for FY 18-19 and the same amount has considered by the Petitioner.

**Table 4.17: Estimated Consumer Contribution capitalized (Rs Cr)**

Sl. No.	Consumer Contribution/Grant	Amount	Remarks
A	Opening Balance	818.26	Table 3.50
B	Capitalized during the year	50.00	
C	Closing Balance	868.26	(A+B)
D	Average Cumulative Capitalized Consumer Cont.	843.26	(A+C)/2

### Depreciation and provision of depreciation

The Hon'ble Commission in its 3<sup>rd</sup> MYT Regulation's has changed its methodology for allowance of Depreciation. In line with the said regulations the Petitioner has also changed depreciation rate in its books of account. Therefore considering such change in rate of depreciation the Petitioner has considered depreciation rate of 4.98% equivalent to depreciation rate sought for FY 2017-18.

In addition to above 3<sup>rd</sup> MYT Regulations, 2017 also provided that depreciation shall be allowed on net fixed assets i.e. Gross Addition – Consumer Contribution/capital subsidy/grant.

Based on above methodology, depreciation is computed as follow:

**Table 4.18: Depreciation for FY 2018-19 (Rs. Cr.)**

Particulars	Amount	Remark/Ref
Opening GFA	5,074.49	Table 3.48
Net Additions to Asset during the year	480.00	Table 4.15
Closing GFA	5,554.49	
Average GFA	5,314.49	
Less: Average Consumer Contribution	843.26	Table 4.17
Average GFA net of CC	4,471.22	

Particulars	Amount	Remark/Ref
Average rate of depreciation	4.98%	Table 3.51
Depreciation for the year	222.67	
Opening Depreciation	1,938.64	Table 3.53
Closing Depreciation	2,161.31	
Average Depreciation	2,049.97	

### Working Capital Requirement

The Petitioner has computed working capital requirement as per Regulation 84 (4) Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017. The relevant extract of the Regulation is as follows:

"84. The Commission shall calculate the Working Capital requirement for:

(4) Distribution Licensee as follows:

(i) Working capital for wheeling business of electricity shall consist of ARR for two months of Wheeling Charges.

(ii) Working Capital for Retail Supply business of electricity shall consist of:

(a) ARR for two months for retail supply business of electricity;

(b) Less: Net Power Purchase costs for one month;

(c) Less: Transmission charges for one month: "

Based on the above formula computation of working capital is given below:

**Table 4.19: Computation of Change in Working Capital**

(Rs Cr)

S. No		Particulars		Amount		Remark
				FY 18-19		
A	Annual revenues requirement	7,316.71				Table 4.26
B	Receivables equivalent to 2 months ARR			1,219.45		A/12*2
C	Power Purchase expenses	5,430.53				Table 4.12
D	Add: 1/12th of power purchase expenses			452.54		C/12
E	Total working capital			766.91		B-D
F	Opening working capital			735.08		Table 3.54
G	Change in working capital			31.83		(E-F)

### Means of Finance

The Petitioner has submitted that the Regulation 63 of the Tariff Regulations 2017 provided that for determination of Tariff, the debt-equity ratio for any project or scheme under commercial operation shall be considered as 70:30.

**Table 4.20: Computation of Change in Working Capital (Rs Cr)**

S. No	Particulars	Amount	Remarks
A	Capitalization	480.00	Table 4.15
B	Less- Consumer Contribution Capitalized during the year	50.00	Table 4.17
C	Funding Requirement	430.00	A-B
D	Through- Debt @ 70% of C	301.00	
E	Through Equity @ 30% of C	129.00	

### Regulated Rate Base

RRB is computed as per the formula specified in the MYT Tariff Regulations, 2017.

**Table 4.21: Computation of Regulated Rate Base (Rs Cr)**

S. No	Particulars	Amount	Remarks
A	Opening Balance of OCFA	5,074.49	Table 3.56
B	Opening Balance of Working Capital	735.08	Table 3.56
C	Opening Balance of Accumulated Depreciation	1,938.64	Table 3.56
D	Opening balance of Accumulated Consumer Contribution	818.26	Table 3.56
E	<b>RRB – Opening</b>	3,052.66	
F	Capitalization during the year	480.00	Table 4.15
G	Depreciation for the year (Including AAD)	222.67	Table 4.18
H	Consumer Contribution, Grants,	50.00	Table 4.17
I	Change in Working Capital	31.83	Table 4.19
J	<b>ΔAB (Change in Regulated Base)</b>	135.49	
K	<b>RRB – Closing</b>	3,291.82	
L	<b>RRB(i)</b>	3,188.16	

### Computation of WACC

The Hon'ble Commission in its Business Plan Regulations, 2017 has approved Rate of Return on Equity computed at base rate of 14% on post-tax basis for wheeling business and base rate of 2% on post-tax basis for retail business.



Further in the Tariff Order August, 2017 the Hon'ble Commission has approved rate of weighted average interest on loans @ 9.73% for FY 2018-19.

Considering the above cost of debt and rate of return on equity, weighted average cost of capital has been computed by considering the average actual equity and average actual debt (net of repayment) for FY 2018-19.

**Table 4.22: Weighted Average Cost of Capital (WACC) sought for FY 2018-19**

S. No	Particulars	Amount	Remark/ Ref
A	Opening Equity	1,200.34	Table 3.58
B	Addition	129.00	Table 4.20
C	Closing Equity	1,329.34	(A+B)
D	Average Equity	1,264.84	(A+B)/2
E	Debt	1,923.32	Balancing Figure
F	Return on Equity	16%	
G	Income Tax Rate	34.94%	
H	Grossed up Return on Equity	24.59%	
I	Rate of Interest	9.73%	
J	Weighted Average Cost of Capital	15.63%	$(D*H+E*I)/(D+E)$

Considering the above computed WACC of 15.63% the Petitioner has sought revised ROCE for FY 18-19 as follows:

**Table 4.23: Computation of Return on Capital Employed**

(Rs Cr)

S. No	Particulars	Amount	Reference
A	RRB (I)	3,188.16	Table 4.21
B	WACC	15.63%	Table 4.22
C	Return on Capital Employed	498.22	(A*B)

### **Non-Tariff Income**

The Petitioner has kept the Non-tariff income for FY 2018-19 at the same level equivalent to the Non-Tariff Income offered for truing up for FY 2017-18.

**Table 4.24: Non-Tariff Income**

(Rs Cr)

S. No	Particulars	Amount
A	Non-Tariff Income/Interest on Security Deposit	91.78

### Computation of Carrying cost Rate

The Hon'ble Commission has approved Return on Equity in terms of Regulations 2(16) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for computation of weighted average rate of interest for funding of Regulatory Assets/ accumulated Revenue Gap through Debt and Equity shall be considered at 14% on pre-tax basis in its Business Plan Regulations, 2017.

Further, the rate of interest has been approved at 9.68% for FY 2018-19 for funding revenue gap. Considering the same rate, the carrying cost rate for FY 2018-19 computed as follows.

**Table 4.25: Computations of carrying cost**

(Rs Cr)

S. No	Particulars	FY 2018-19
A	Rate of Return on Equity	14.00%
B	Rate of Interest on Loan	9.68%
C	Rate of Carrying Cost	10.98%

### Computation of Aggregate Revenue Requirement

Based on the above submission the Petitioner has sought revised ARR for FY 2018-19 as below.

**Table 4.26: Summary of Aggregate Revenue Requirement**

(Rs Cr)

S. No	Particular	FY 2018-19 As approved by Hon'ble Commission	FY 18-19 Revised ARR	Remarks
A	Cost of Power Purchase	5,015.94	5,430.53	Table 4.12
B	O&M Expenses	754.06	823.25	Table 4.13
C	Depreciation	176.04	222.67	Table 4.18
D	Return on Capital Employed	411.76	498.22	Table 4.23
E	Carrying Cost	152.71	433.63	Table 4.28
F	Less: Non-Tariff Income/ Interest on consumer security deposit	123.22	91.78	Table 4.24
H	<b>Annual Revenue Requirement</b>	<b>6,387.29</b>	<b>7,316.71</b>	

From the above table it can be seen that estimated revised ARR for FY 2018-19 comes to Rs. 7,316.71 Cr. as against the approved ARR of Rs. 6,387.29 Cr.

**Revised computation of Revenue (Gap)/surplus for FY 2018-19**

Based on the above submission, the Petitioner has computed Revenue surplus of Rs. 70.39 Cr for FY 2018-19 without carrying cost and DRS.

**Table 4.27 Computations of Revenue (Gap) for the year without carrying Cost (Rs. Cr)**

S. No	Particular	2018-19 as per Tariff Order Mar,18	FY 2018-19 Estimated	Remarks
A	Aggregate Revenue Requirement for the year without carrying cost	6,234.58	6,882.88	Table 4.26
B	Revenue available for the year	6,802.46	6,953.27	Table 4.2
C	Revenue (Gap)/surplus for the year	567.88	70.39	(B-A)

**Computation of Closing Revenue Gap along with Carrying Cost**

The summary of addition in opening Revenue Gap of FY 2017-18 along with adjustment of 8% Deficit Recovery Surcharge is given below:

**Table 4.28 Computations of Closing Revenue Gap for FY 18-19 (Rs. Cr)**

S. No	Particular	Amount	Remarks
A	Opening Revenue Gap	(3,987.72)	Table 3.67
B	Revenue (Gap)/Surplus for the year	70.39	Table 4.27
D	Closing Revenue (Gap)	(3,917.33)	(A+B)
E	Carrying Cost Rate	10.98%	Table 4.25
F	Carrying Cost	(433.83)	
G	Recovery of carrying cost from 8% Deficit Revenue Recovery Surcharge	551.60	99.5% of Billed DRRS as per Table 4.1
H	Closing Revenue Gap (including carrying cost)	(3,799.56)	

