

CHAPTER-6

AGGREGATE ANNUAL REVENUE REQUIREMENT for FY-19

6.1 POWER PURCHASE COST:

In the Chapter "Energy Sales Projections" MESCOM has elaborated the projections made in respect of the energy sales for FY-19. Further, the energy requirement at generation point has also been arrived considering the projected distribution loss and transmission loss for the respective years.

In this Chapter, the energy requirement projected for the year FY-19 has been considered for estimations of power purchase cost to arrive at the aggregate annual revenue requirement for FY-19.

a. Cost of power at generation point:

M/s PCKL has made available the source wise energy availability and related cost which has been considered in the filing.

For FY-19, PCKL has estimated that the cost of power purchase for MESCOM as Rs.2407.30 Cr. Power purchase cost incurred by MESCOM in different years are indicated in the below table;

Rs. in Cr.

Year	Amount
Fy-13 (Actuals)	1378.27
Fy-14 (Actuals)	1484.68
Fy-15 (Actuals)	1467.63
Fy-16 (Actuals)	2010.15
Fy-17 (As appd. In TO-2016)	2197.99
Fy-17 (Actuals)	2291.69
Fy-18 (As appd. In TO-2017)	2014.90
Fy-18 (Revised Projection)	2335.16
Fy-19 (As appd. In TO-2016)	2426.75
Fy-19 (Revised Projection)	2407.58

b. KPTCL Transmission Charges: Transmission charges for FY-19 approved by the Hon'ble Commission in Tariff Order 2016 has been considered, which is Rs.251.83 Cr.



a. SLDC Charges: SLDC charges for FY-19 approved by the Hon'ble Commission in Tariff Order 2016 has been considered, which is Rs.2.02 Cr.

6.2 Operation and Maintenance (O&M) Costs:

The Operation and Maintenance (O&M) costs includes employee-related costs, repairs & maintenance costs and administrative & general costs. All the above sub components of the O&M costs are projected for the year FY-19 as detailed below;

In the Tariff Order 2017, Hon'ble Commission has projected the O&M Expenses for FY-18 with the following norms.

- Actual O&M Expenses in the year FY-16 as the base.
- Consumer growth index of 3.93%.
- Weighted average inflation index.
- Efficiency factor of 1%.

MESCOM has considered the same norms for projecting the various costs under the head 'O&M Expenses' but with the following additions.

- ✓ Weighted average inflation index of 8.11% which is arrived as follows:

Year	WPI	CPI	Comp. Series	Yt/Y1 =Rt	Ln Rt	Year (t-1)	Product [(t-1)*(LnRt)]
2005	103.40	115.80	113.32				
2006	109.60	122.90	120.24	1.06	0.06	1	0.06
2007	114.90	130.80	127.62	1.13	0.12	2	0.24
2008	124.90	141.70	138.34	1.22	0.20	3	0.60
2009	127.90	157.10	151.26	1.33	0.29	4	1.16
2010	140.10	175.90	168.74	1.49	0.40	5	1.99
2011	153.40	191.50	183.88	1.62	0.48	6	2.90
2012	164.90	209.30	200.42	1.77	0.57	7	3.99
2013	175.40	232.20	220.84	1.95	0.67	8	5.34
2014	182.00	246.90	233.92	2.06	0.72	9	6.52
2015	177.00	261.40	244.52	2.16	0.77	10	7.69
2016	180.60	274.30	255.56	2.26	0.81	11	8.95
A=Sum of the product column							39.43
B=6 times of A							236.61
C=(n-1)*n*(2n-1)							3036.00
D=B/C							0.0779
Annual Escalation rate (exponential of D)							8.11%



- ✓ MESCOM has completed the recruitment process for recruitment of about 441 employees under various cadres and has issued appointment orders in the month of Nov-17. Hence, MESCOM has to incur additional employee cost of Rs.10.35 Cr in FY-18 (for 4 months) and Rs.31.04 Cr in FY-19 as indicated below.

Sl. No.	Designation	No.s	Additional Expenditure for FY-18 (Rs. In Cr.)	Additional Expenditure for FY-19 (Rs. In Cr.)
1.	Asst. Engineer (Ele.)	78	2.30	6.91
2.	Asst. Engineer (Civil)	7	0.21	0.62
3.	Asst. Accounts Officer	41	1.21	3.63
4.	Junior Engineer (Ele.)	112	2.35	7.06
5.	Junior Engineer (Civil)	7	0.15	0.44
6.	Assistant	122	2.09	6.26
7.	Junior Assistant	74	1.10	3.30
	TOTAL:	441	9.41	28.22
	Pension Contribution @ 10%		0.94	2.82
	TOTAL:		10.35	31.04

Further, it is to be submitted before the Hon'ble Commission that it is learnt that a proposal is pending before KPTCL for revision of pay of the employees with effect from 01-04-2017 which may result in additional expenses to MESCOM. In this regard, the Hon'ble Commission is requested to allow MESCOM to file an additional application, in case of any orders on that in the future date, to include the resultant expenses in the ARR proposal.

On the above elucidated norms / parameters, MESCOM has proceeded to project the O&M Expenses for FY-19 as below;

6.2.1 Employee Related Costs:

Particulars	Rs. in Cr.		
	FY-16	FY-18	FY-19
Actual Expenses in FY-16	249.24	-	-
Consumer Growth Index	-	3.93%	3.93%
Weighted Inflation Index	-	8.11%	8.11%
Efficiency Factor	-	1.00%	1.00%
Net Growth Rate	-	11.04%	11.04%
Expenses projected	-	307.31	341.24
Add: Additional Employee cost towards new recruitment	-	10.35	31.04
TOTAL:		317.66	372.28

6.2.2 Repairs and Maintenance Costs:

Rs. in Cr.

Particulars	FY-16	FY-18	FY-19
Actual Expenses in FY-15	33.05	-	-
Consumer Growth Index	-	3.93%	3.93%
Weighted Inflation Index	-	8.11%	8.11%
Efficiency Factor	-	1.00%	1.00%
Net Growth Rate	-	11.04%	11.04%
Expenses projected	-	40.75	45.25

6.2.3 Administrative and General Costs:

Rs. in Cr.

Particulars	FY-16	FY-18	FY-19
Actual Expenses in FY-15	67.41	-	-
Consumer Growth Index	-	3.93%	3.93%
Weighted Inflation Index	-	8.11%	8.11%
Efficiency Factor	-	1.00%	1.00%
Net Growth Rate	-	11.04%	11.04%
Expenses projected	-	83.12	92.30

6.2.4 ABSTRACT of Operation and Maintenance (O&M) Costs:

(O&M Costs: Rs. in Cr)

Year	Employee Costs	R&M Costs	A&G Costs	Total O&M Costs
FY-13 (Actual)	208.55	15.12	36.40	260.07
FY-14 (Actual)	222.84	20.11	46.33	289.28
FY-15 (Actual)	226.41	34.94	60.42	321.77
FY-16 (Actual)	249.24	33.04	67.41	349.69
FY-17 (Appd. TO 2016)	-	-	-	391.78
FY-17 (Actual)	266.98	35.88	68.27	371.13
FY-18 (Appd. TO 2017)	-	-	-	429.30
FY-18 (Revised Projection)	317.66	40.75	83.12	441.53
FY-19 (Appd. TO 2016)	-	-	-	477.89
FY-19 (Revised Projection)	372.28	45.25	92.30	509.83

6.3 DEPRECIATION:

MESCOM has considered the actual weighted rate of depreciation in the year FY-17 to arrive at the depreciation for the year FY-19. The computation of depreciation for FY-19 is narrated in the below given table;



(Rs. in Cr.)

Particulars	Value of Gross Block Assets in FY-17	Depreciation Amount	%
Land and rights	8.01	-	0.00%
Buildings	47.67	1.83	3.84%
Hydraulic Works	2.63	0.14	5.32%
Other Civil Works	0.70	0.03	4.29%
Plant & Machinery	284.13	15.20	5.35%
Lines, Cables, Networks / Service Lines / Metering equipment	1,311.93	60.71	4.63%
Vehicles	4.76	0.18	3.78%
Furniture Fixtures	5.13	0.28	5.46%
Office Equipment	1.58	0.08	5.06%
Total:	1,666.54	78.45	4.71%

(Rs. in Cr.)

Particulars	Estimated Avg. value of Gross Block Assets in FY-18	Depreciation for FY-18 (Revised Projection)
Land and rights	8.41	-
Buildings	77.88	2.99
Hydraulic Works	2.88	0.15
Other Civil Works	0.70	0.03
Plant & Machinery	329.02	18.25
Lines, Cables, Networks / Service Lines / Metering equipment	1,488.97	68.64
Vehicles	5.06	0.19
Furniture Fixtures	8.96	0.49
Office Equipment	3.42	0.17
Total:	1925.30	90.91

(Rs. in Cr.)

Particulars	Estimated Avg. value of Gross Block Assets in FY-19	Depreciation for FY-19 (Revised Projection)
Land and rights	8.92	-
Buildings	116.02	4.45
Hydraulic Works	3.20	0.17
Other Civil Works	0.70	0.03
Plant & Machinery	401.09	22.25
Lines, Cables, Networks / Service Lines / Metering equipment	1,701.39	78.72
Vehicles	5.45	0.20
Furniture Fixtures	13.79	0.75
Office Equipment	5.73	0.29
Total:	2,256.29	106.86

Abstract:		(Rs. in Cr.)
Year	Depreciation Amount in different years	
FY-13 (Actual)	50.84	
FY-14 (Actual)	54.71	
FY-15 (Actual)	63.68	
FY-16 (Actual)	63.74	
FY-17 (Appd. TO 2016)	77.38	
FY-17 (Actual)	78.45	
FY-18 (Appd. TO 2017)	79.60	
FY-18 (Revised Projection)	90.91	
FY-19 (Appd. TO 2016)	95.29	
FY-19 (Revised Projection)	106.86	

6.4 INTEREST AND FINANCE COSTS:

Interest and Finance costs include interest on capital loan, interest on working capital, interest on consumer deposits and other finance costs.

6.4.1 Interest on Capital Loan:

In the year FY-17, MESCOM's CAPEX plan viz-a-viz the achievement is as indicated below;

Particulars	Capex Plan (Budget) Rs. In Cr.	Capex Incurred during the year Rs. In Cr	%
DDUGJY	396.00	0.00	-
IPDS	157.80	16.73	11%
DDG	0.70	0.02	3%
Others	545.50	271.63	50%
Total:	1100.00	288.38	26%

Based on the above indicators, MESCOM has considered 20% achievement probability for DDUGJY/IPDS/DDG and 60% achievement probability for other works against the budget allocation for FY-18. Similarly for FY-19, 30% achievement probability for DDUGJY/IPDS/DDG and 60% achievement probability for other works against the budget allocation have been considered. With the above notion, the loan requirement from the commercial banks has been arrived @ 70% of the estimated capex achievement as detailed below;



Particulars	Capex Plan (Budget) for FY-18 Rs. In Cr.	Achievement Probability %	Estimated Capex achievement for FY-18 Rs. In Cr.	Loan requirement for FY-18 (70% of estimated capex achievement)
DDUGJY	97.79	20%	19.56	Rs.262.61 Cr.
IPDS				
DDG				
Others	592.65	60%	355.59	
Total:	690.44	54%	375.15	

Particulars	Capex Plan (Budget) for FY-19 Rs. In Cr.	Achievement Probability %	Estimated Capex achievement for FY-19 Rs. In Cr.	Loan requirement for FY-19 (70% of estimated capex achievement)
DDUGJY	233.00	30%	69.90	Rs.288.54 Cr.
IPDS				
DDG				
Others	570.50	60%	342.30	
Total:	803.50	54%	412.20	

Capital Budget of MESCOM for FY-18 and FY-19 has been detailed in **Annexure-4**.

Considering the above estimations, interest on loan capital has been projected for FY-19, as indicated below.

(Rs. in Cr.)

Particulars	FY-18	FY-19
Opening Balance of loans	547.57	669.89
Add: New Loans	262.61	288.54
Less: Repayments	140.29	170.29
Closing Balance of loans	669.89	788.14
Average Loan	608.73	729.02
Rate of interest	11.00%	11.00%
Interest on Capital Loan	66.96	80.19

6.4.2 Interest on Consumer Deposits:

The computation methodology adopted by the Hon'ble Commission in the Tariff Order 2017 has been followed for projecting the interest on consumer security deposit. Increase in consumer deposit in FY-17 with reference to security deposit in FY-16 is taken as the estimated additions for FY-18 and FY-19.

Accordingly, Interest on Consumer Deposits for the year FY-19 is projected as below;

Particulars	FY-18	FY-19
Opening Balance of the security deposits	509.09	550.74
Add: Collected during the year	41.65	41.65
Closing Balance of the security deposits	550.74	592.39
Average	529.92	571.57
Rate of interest	7.75%	7.75%
Interest on Capital Loan	41.07	44.30

6.4.3 Interest on Working Capital:

Interest on working capital has been projected for the year FY-19 as per the norms prescribed in the MYT regulations.

(Interest on Working Capital: Rs. in Crores)

Year	FY-18 (Revised Projection)	FY-19 (Revised Projection)
1/12th of O&M Expenses	36.70	42.23
Opening GFA	1,765.90	2081.60
1% on opening GFA	17.66	20.82
1/6th of Revenue	515.86	532.87
Total Working Capital	570.22	595.92
Rate of Interest (%)	11.00%	11.00%
Interest on Working Capital	62.72	65.55

6.4.4 Cost of raising finance:

Actual / projected cost of raising finance for different years is tabulated below;

(Rs. in Crores)

Year	Amount
FY-13 (Actual)	2.85
FY-14 (Actual)	3.33
FY-15 (Actual)	2.19
FY-16 (Actual)	1.21
FY-17 (Appd. TO 2016)	2.19
FY-17 (Actual)	3.95
FY-18 (Appd. TO 2017)	1.21
FY-18 (Revised Projection)	3.95
FY-19 (Appd. TO 2016)	2.19
FY-19 (Revised Projection)	3.95

6.4.5 ABSTRACT of Interest and Finance Costs:

(Interest and Finance Costs: Rs. in Crores)

Year	Interest on Capital Loan	Working Capital Interest	Interest on consumer Deposit	Interest on belated payment of power purchase bills	Cost of raising finance	Total
FY-16 (Actual)	62.68	12.18	35.55	0.29	1.21	111.91
FY-17 (As apprd. in TO-2016)	67.07	55.64	38.22	-	2.19	163.12
FY-17 (Actual)	53.43	33.38	35.68	2.87	3.95	129.31
FY-18 (As apprd. in TO-2017)	68.71	58.61	35.94	-	1.21	164.47
FY-18 (Revised Projection)	66.96	62.72	41.07	-	3.95	174.70
FY-18 (As apprd. in TO-2017)	70.99	63.11	45.04	-	2.19	178.93
FY-19 (Revised Projection)	80.19	65.55	44.30	-	3.95	193.99

6.4.6 Interest & Other expenses capitalized:

Actual / projected interest & other expenses capitalized in different years is tabulated below;

(Rs. in Crores)

Year	Amount
FY-13 (Actual)	2.07
FY-14 (Actual)	2.51
FY-15 (Actual)	2.39
FY-16 (Actual)	1.30
FY-17 (Appd. TO 2016)	2.39
FY-17 (Actual)	2.39
FY-18 (Appd. TO 2016)	1.30
FY-18 (Revised Projection)	2.39
FY-19 (Appd. TO 2016)	2.39
FY-19 (Revised Projection)	2.39

6.5 OTHER DEBITS (including bad debts):

Actual / projected 'Other Debits' charges for different years are tabulated below;

(Rs. in Crores)

Year	Amount
FY-13 (Actual)	4.19
FY-14 (Actual)	13.65
FY-15 (Actual)	6.46
FY-16 (Actual)	5.03
FY-17 (Appd. TO 2016)	-
FY-17 (Actual)	20.20
FY-18 (Appd. TO 2017)	-
FY-18 (Revised Projection)	3.95
FY-18 (Appd. TO 2016)	-
FY-19 (Revised Projection)	3.95

6.6 PRIOR PERIOD (CREDITS) / CHARGES:

Actual / projected 'Net prior period (credits) / charges' charges for different years is tabulated below;

(Rs. in Crores)

Year	Amount
FY-13 (Actual)	(11.93)
FY-14 (Actual)	(1.89)
FY-15 (Actual)	(28.62)
FY-16 (Actual)	(8.66)
FY-17 (Appd. TO 2016)	-
FY-17 (Actual)	190.03
FY-18 (Appd. TO 2017)	-
FY-18 (Revised Projection)	1.93
FY-19 (Appd. TO 2016)	-
FY-19 (Revised Projection)	1.93

6.7 RETURN ON EQUITY:

Paid up share capital, share deposit and reserves & surplus, at the beginning of the year, considered for projection of 'Return on Equity' for the year FY-19 as indicated below;

(Return on Equity: Rs. in Crores)

Year	FY-18	FY-19
Opening balance of paid up share capital	358.07	358.07
Share Deposit	14.00	14.00
Reserves & Surplus	170.20	250.22
Less: Recapitalized Security Deposit	(-)26.00	(-)26.00
Total:	516.27	596.29
Rate of ROE (grossed up with MAT) [*]	19.706%	19.706%
As approved in TO-2017/TO-2016.	79.90	95.53
RoE (Revised projection)	101.74	117.50

[*] Considered 15.50% of return on equity duly grossed up with the applicable MAT of 21.342% which works out to 19.706%, as approved in Tariff Order 2017.

Status of Debt Equity Ratio:

Particulars	FY-18	FY-19
GFA Closing Balance	2081.60	2417.58
Debt	669.89	788.14
Equity	596.29	688.71
Normative Debt @ 70% of GFA	1457.12	1692.31
Normative Equity @ 30% of GFA	624.48	725.27
% of actual DEBT on GFA	32.18 %	32.60 %
% of actual EQUITY on GFA	28.65 %	28.49 %

From the above table, it is clear that the debt equity amount lies within the normative debt equity ratio of 70:30 on the closing balances of GFA.

6.8 PROVISION FOR TAX:

In line with the norms adopted by the Hon'ble Commission in the Tariff Orders, MESCOM has not claimed separately any amount towards income tax as the RoE has been computed & projected considering MAT.

6.9 FUNDS TOWARDS CONSUMER RELATIONS:

Hon'ble Commission has allowed an amount of Rs.50 lakhs towards Consumer Education / Relations activities. The same amount has been projected for FY-19. In the year FY-17, actual amount incurred under this head is Rs.31.00 lakhs.

6.10 ABSTRACT – Annual Revenue Requirement (Rs. In Cr.):

Projections of the expenditures in all the sub heads are detailed in the respective prescribed formats D1 to D21 and the values are abstracted in the below table;

Particulars	Fy-13		Fy-14	
	As per Accounts	As per APR	As per Accounts	As per APR
Power Purchase Cost	1,378.27	1,378.34	1,484.68	1,484.68
KPTCL Transmission charges	158.89	158.89	182.87	182.87
SLDC Charges	0.25	0.20	1.33	1.33
O&M Costs	260.07	260.07	289.28	286.50
Depreciation	50.84	24.24	54.71	19.88
Interest & Finance Charges	184.66	102.76	182.64	105.68
Interest & Finance Charges Capitalized	(2.07)	(2.07)	(2.51)	(2.51)
Other Debits	4.19	2.53	13.65	11.58
Extraordinary Items	(78.43)	(43.20)	(0.47)	-
Net prior period (credits) / charges	(11.93)	(11.94)	(1.89)	(1.11)
Provision for taxes	1.73	(6.64)	0.47	-
Funds towards consumer relations	0.05	-	0.23	0.23
TOTAL:	1,946.52	1,863.18	2,204.99	2,089.13
Return on Equity	-	35.79	-	28.61
Regulatory Asset	-	-	-	-
Regulatory Asset carry forward	-	-	-	-
Prior period subsidy	-	122.48	-	-
APR (Surplus) / Deficit	-	-	-	-
Disallowance for imprudent capex	-	-	-	-
Other Income	(210.40)	(24.15)	(252.42)	(250.97)
ARR:	1,736.12	1,997.30	1,952.57	1,866.77



Particulars	Fy-15		Fy-16	
	As per Accounts	As per APR	As per Accounts	As per APR
Power Purchase Cost	1,467.63	1,467.63	2,010.15	2,010.15
KPTCL Transmission charges	184.41	184.41	218.70	218.70
SLDC Charges	6.10	6.10	1.71	1.71
O&M Costs	321.77	303.12	349.69	338.46
Depreciation	63.68	63.95	63.74	64.08
Interest & Finance Charges	196.95	123.03	111.91	125.89
Interest & Finance Charges Capitalized	(2.39)	(3.40)	(1.30)	(2.32)
Other Debits	6.46	2.97	5.03	4.53
Extraordinary Items	(3.43)	-	(5.02)	(2.70)
Net prior period (credits) / charges	(28.62)	(4.95)	(8.66)	(8.66)
Provision for taxes	3.43	-	2.31	-
Funds towards consumer relations	0.05	0.05	0.11	0.11
TOTAL:	2,216.04	2,142.91	2,748.37	2,749.95
Return on Equity		42.74	-	49.20
Regulatory Asset	101.54	-	-	-
Carrying Cost Regulatory Asset	-	-	-	6.05
Prior period subsidy	-	-	-	-
APR (Surplus) / Deficit	-	-	-	-
Disallowance for imprudent capex	-	-	-	-
Other Income	(140.17)	(138.82)	(396.26)	(46.25)
ARR:	2,177.41	2,046.83	2,352.11	2,758.95

(ABSTRACT – Annual Revenue Requirement -Rs. In Cr.)

Particulars	Fy-17		
	As approved In TO-2016	As per Accounts	As proposed for APR
Power Purchase Cost	1,949.45	2,291.69	2,291.69
KPTCL Transmission charges	246.90	248.38	248.38
SLDC Charges	1.64	1.64	1.64
O&M Costs	391.78	371.13	371.13
Depreciation	77.38	78.45	78.45
Interest & Finance Charges	163.12	129.31	138.07
Interest & Finance Charges Capitalized	(2.39)	(2.39)	(2.39)
Other Debits	-	20.20	20.20
Extraordinary Items	-	(3.07)	-
Net prior period (credits) / charges	-	190.13	190.13
Provision for taxes	-	3.07	3.07
Funds towards consumer relations	0.50	0.31	0.31
TOTAL:	2,828.38	3,328.85	3,340.68
Return on Equity	71.61	-	80.76
Regulatory Asset	92.25	-	-
Regulatory Asset carry forward	(92.25)	-	-
Prior period subsidy	-	-	-
APR (Surplus) / Deficit	(144.52)	-	-
Disallowance for imprudent capex	-	-	-
Other Income	(73.77)	(531.88)	(73.71)
ARR:	2,773.95	2,796.97	3,347.73



Particulars	FY-18		FY-19	
	As apprd. In TO-2017	Revised Projections	As apprd. In TO-2016	Revised Projections
Power Purchase Cost	1,796.76	2335.16	2,172.91	2,407.58
KPTCL Transmission charges	216.20	216.20	251.83	251.83
SLDC Charges	1.94	1.94	2.02	2.02
O&M Costs	429.30	441.53	477.89	509.83
Depreciation	79.60	90.91	95.29	106.86
Interest & Finance Charges	164.48	174.70	181.33	193.99
Interest & Finance Charges Capitalized	(1.30)	(2.39)	(2.39)	(2.39)
Other Debits	-	3.95	-	3.95
Extraordinary Items	-	-	-	-
Net prior period (credits) / charges	-	1.93	-	1.93
Provision for taxes	-	-	-	-
Funds towards consumer relations	0.50	0.50	0.50	0.50
TOTAL:	2,687.48	3,263.94	3,179.38	3,475.82
Return on Equity	79.90	101.74	95.53	117.50
Regulatory Asset	-	-	-	-
Regulatory Asset carry forward	-	-	-	-
Prior period subsidy	-	-	-	-
APR (Surplus) / Deficit	395.74	-	-	537.82
Disallowance for imprudent capex	(0.40)	-	-	-
Other Income	(39.87)	(28.77)	(95.36)	(28.77)
ARR:	3,122.85	3,337.40	3,179.55	4,102.65

6.11 It is to be submitted before the Hon'ble Commission to consider the projected Aggregate Annual Revenue Requirement of MESCOM as elaborated above. The enclosed formats from A1 to D24 have contained the costs under each sub heads of income / expenditure.

6.12 CAPITAL INVESTMENT PROGRAMME FOR FY-15:

Capital Investment Programme envisaged for FY-17 & FY-18 are detailed in **Annexure-4.**

:-:-:-:-