DELHI ELECTRICITY REGULATORY COMMISSION

New Delhi

Date: 27/06/2017

EXPLANATORY MEMORANDUM
DRAFT DELHI ELECTRICITY REGULATORY COMMISSION BUSINESS PLAN REGULATIONS, 2017

1. INTRODUCTION

(1) In exercise of the powers vested under Sections 61 and 181 (2) (s) of the Act and all other enabling powers and in compliance of the requirement under Section 181 (3) of the Act, the Commission has uploaded the draft of DERC Business Plan Regulations, 2017 on its website http://derc.gov.in/.

(2) The Commission has invited comments/suggestions from stakeholders through Public Notices published in leading newspapers of English, Hindi, Urdu and Punjabi which was also uploaded on the Commission's website http://derc.gov.in/. The last date for submission of comments/suggestions from stakeholders on the said Regulations is extended till 18/07/2017.

(3) This Explanatory Memorandum is being issued with the intent of explaining the rationale and objective behind Draft DERC Business Plan Regulations, 2017.

(4) It may be mentioned for the sake of clarity, that the term *"Commission"* in most of the cases refers to the Officers of the Commission for carrying out the research/due diligence on the available information for preparation of Explanatory Memorandum for Draft Delhi Electricity Regulatory Commission Business Plan Regulations, 2017.

2. BACKGROUND

(5) Regulation 3 of the Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017 has specified that:

"The Commission shall notify Business Plan Regulations for each Control Period based on the Business Plan submitted by the Utility which shall be read as part of these Regulations."

(6) Regulation 4 of the Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017 has specified that:

"4. The Business Plan Regulations shall contain the following parameters applicable for a Control Period:

(1) Rate of Return on Equity,
(2) Margin for rate of interest on Loan,
(3) Operation and Maintenance Expenses,
(4) Capital Investment Plan,
(5) Mechanism for sharing of incentive-disincentive mechanism,
(6) Allocation of overhead expenses incurred on account of Administrative Expenditure out of Operation and Maintenance Expenses for creation of Capital Asset,
(7) Generating Norms:
(a) Gross Station Heat Rate,
(b) Plant Availability Factor,
(c) Secondary Fuel oil consumption;
(d) Auxiliary consumption and
(e) Plant Load Factor;
(8) Transmission Norms:
(a) Annual Transmission system availability;
(b) Annual Voltage wise Availability;
(9) Distribution Norms:
(a) Distribution Loss Target;
(b) Collection Efficiency Target;
(c) Targets for Solar and Non Solar RPO;
(d) Contingency limit for Sale through Deviation Settlement Mechanism (Unscheduled Interchange) transactions
(e) The ratio of various ARR components for segregation of ARR into Retail Supply and Wheeling Business."

3. DEFINITIONS

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

*" **2. DEFINITIONS AND INTERPRETATION***
In these Regulations, unless the context otherwise requires, words and expressions used in these Regulations have the same meaning as defined in Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017;
Words and expressions used but not defined in these Regulations shall have the same meaning as assigned to it in the Act or any other law framed under the Act."

EXPLANATORY NOTES

(7) The Commission has defined the relevant terms used for the purpose of tariff determination in Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017 and had specified that Business Plan Regulations shall be read as part of Delhi Electricity Regulatory Commission (Terms and

Conditions for Determination of Tariff) Regulations, 2017. Therefore, the Commission has adopted the definitions of the words and expressions as defined in the Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017 is as follows:

"In these Regulations, unless the context otherwise requires, words and expressions used in these Regulations have the same meaning as defined in Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2017;
Words and expressions used but not defined in these Regulations shall have the same meaning as assigned to it in the Act or any other law framed under the Act."

4. RATE OF RETURN ON EQUITY

PROVISIONS IN DRAFT BUSINESS PLAN REGULATIONS, 2017

GENERATING ENTITY

" 3. RATE OF RETURN ON EQUITY
Return on Equity in terms of Regulation 4(1) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for Generating Entity shall be computed at the Base Rate of 14.00% on post tax basis.

TRANSMISSION LICENSEE

" 10. RATE OF RETURN ON EQUITY
Return on Equity in terms of Regulation 4(1) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for Transmission Licensee shall be computed at the Base Rate of 14.00% on post tax basis."

DISTRIBURTION LICENSEE

"17. RATE OF RETURN ON EQUITY
*(1) **Wheeling Business:** Return on Equity in terms of Regulation 4(1) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 shall be computed at the Base Rate of 14.00% on post tax basis.*

*(2) **Retail Business:** Return on Equity in terms of Regulation 4(1) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 shall be computed at the Base Rate of 2.00% on post tax basis.*

*(3) **Carrying Cost:** Return on Equity in terms of Regulation 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 Asset/accumulated Revenue Gap through debt and equity shall be considered at 14.00% on pre-tax basis."*

EXPLANATORY NOTES

(8) The Commission has observed that base rate of Return on Equity specified by various

Electricity Regulatory Commissions (ERCs) is in the range of 14% to 17.50% as follows:

a) 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% post tax basis for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage in Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

b) 15.50% for Generating Entities, 15.50% for Transmission Licensees, 15.50% for Distribution Wires Business and 17.50% for Retail Supply Business in Maharashtra Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2015.

c) 14% for Generating Entities, Transmission Licensees and Distribution Licensees in Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2016.

d) 16% in Uttar Pradesh Electricity Regulatory Commission (Multi Year Distribution Tariff) Regulations, 2014 for Distribution Licensees.

(9) Therefore, after detailed deliberations, and considering the limitations of using any of the financial models like CAPM and the non availability of sufficient volume of historical data for the companies operating in Indian Power Sector, the Commission proposes to continue with the existing base rate of Return on Equity of 14% on post tax basis for Generation, Transmission and Distribution sector with the additional Return on Equity of 2% on post tax basis for risk associated to Retail Supply Business.

5. MARGIN FOR RATE OF INTEREST ON LOAN

PROVISIONS IN DRAFT BUSINESS PLAN REGULATIONS, 2017

GENERATING ENTITY

"5. MARGIN FOR RATE OF INTEREST ON LOAN

(1) Margin for rate of interest in terms of Regulation 4(2) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for the Generating Entity shall be allowed over and above 1 (one) year Marginal Cost of Fund based Lending Rate (MCLR) of SBI for computation of rate of interest on loan:

Table 1: Margin for Rate of Interest on Loan

Sr. No.	*Generating Station*	*Margin for Rate of Interest on Loan (%)*		
		2017-18	*2018-19*	*2019-20*
1	*Gas Turbine Power Station (GTPS)*	*2.34%*	*2.11%*	*2.01%*
2	*Pragati Power Station I (PPS I)*	*2.98%*	*2.98%*	*2.98%*

"

TRANSMISSION LICENSEE

"

12. MARGIN FOR RATE OF INTEREST ON LOAN :

(1) The following Margin shall be allowed over and above 1 (one) year Marginal Cost of Fund based Lending Rate (MCLR) of SBI for computation of rate of interest on loan:

Table 6: Margin for Rate of Interest on Loan

Sr. No.	Particulars	2017-18	2018-19	2019-20
1	Margin for Rate of Interest on Loan	1.69%	1.69%	1.69%

"

DISTRIBUTION LICENSEE

"19. MARGIN FOR RATE OF INTEREST ON LOAN

(1) Margin for rate of interest in terms of Regulation 4(2) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for the Distribution licensee shall be allowed over and above one (1) year Marginal Cost of Fund based Lending Rate (MCLR) of SBI for computation of rate of interest on loan as follows:

Table 10: Margin applicable on Capex loan for the Control Period

Sr. No.	Distribution Licensee	2017-18	2018-19	2019-20
1	BSES Rajdhani Power Limited	5.34%	5.34%	5.34%
2	BSES Yamuna Power Limited	6.05%	6.05%	6.05%
3	Tata Power Delhi Distribution Limited	1.73%	1.73%	1.73%
4	New Delhi Municipal Council	0.10%	0.10%	0.10%

Table 11: Margin applicable on other than Capex loan for the Control Period

Sr. No.	Distribution Licensee	2017-18	2018-19	2019-20
1	BSES Rajdhani Power Limited	6.10%	6.10%	6.10%
2	BSES Yamuna Power Limited	6.05%	6.05%	6.05%
3	Tata Power Delhi Distribution Limited	1.68%	1.68%	1.68%
4	New Delhi Municipal Council	0.10%	0.10%	0.10%

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EXPLANATORY NOTES

(10) As per Regulation 77 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017, the Commission has considered the actual loan portfolio of the utilities as on 31 December 2016 and has computed the margin accordingly subject to the rate of interest on loan shall not exceed approved rate of return on equity in any year.

DISTRIBUTION LICENSEE

(11) The margin for TPDDL has been considered as 1.73% for CAPEX loan (actual loan portfolio of 9.73% - MCLR of 8.00%). The details of actual portfolio as submitted by TPDDL is as follows:

Name of Lender	Balance o/s as on 31st Dec.	Rate of Interest as on 31st Dec'16
Allahabad Bank	44.44	9.70%
Allahabad Bank	44.44	9.95%
Canara Bank	37.50	9.65%
Canara Bank	72.22	9.65%
Canara Bank	181.25	9.65%
Canara Bank	0.10	9.45%
IDFC Bank Ltd	5.00	9.30%
IDFC Bank Ltd	6.00	9.30%
IDFC Bank Ltd	10.00	9.30%
IDFC Bank Ltd	14.00	9.30%
Punjab & Sind Bank	28.95	9.60%
Punjab & Sind Bank	14.47	10.25%
Punjab & Sind Bank	100.00	10.00%
State Bank of Mysore	152.34	9.65%
Union Bank of India	51.32	9.80%
Union Bank of India	41.67	10.05%
Allahabad Bank	22.22	9.95%
IDFC Bank Ltd	18.75	9.55%
State Bank of Mysore	35.16	9.65%
Weighted Average Rate of Interest	**9.73%**	

(12) The margin for TPDDL has been considered as 1.68% for Non CAPEX loan (actual loan portfolio of 9.68% - MCLR of 8.00%). The details of actual portfolio as submitted by TPDDL is as follows:

Name of Lender	Weighted Average Rate of Interest	Weighted Average Rate of Interest
Aditya Birla Finance Company Limited	59.63	9.80%
Allahabad Bank	218.75	9.95%
Canara Bank	75.00	9.85%
Canara Bank	93.75	9.65%
Canara Bank	87.50	9.65%
Dena Bank	30.00	9.70%
IDFC Bank Ltd	250.00	9.45%
Karnataka Bank Limited	50.00	9.65%
Punjab & Sind Bank	175.00	9.65%
Punjab & Sind Bank	234.38	9.65%
Punjab & Sind Bank	150.00	9.65%
Punjab & Sind Bank	50.00	10.00%
Syndicate Bank	350.00	9.65%
Weighted Average Rate of Interest	**9.68%**	

(13) The margin for BRPL has been considered as 5.34% for CAPEX Loan (actual loan portfolio of 13.34% - MCLR of 8.00%). The details of actual portfolio as submitted by BRPL is as follows:

Name of the Bank	Closing Balance 31.12.2016	Total
	(in Rs. Cr.)	(%)
IDBI Bank	13.33	14.15
Punjab National Bank	33.84	14.10
Punjab National Bank	36.98	14.10
Punjab National Bank	70.27	14.10
Bank of Baroda	35.48	12.25
Bank of Baroda	43.75	12.25
Federal Bank Ltd.	30.00	13.73
State Bank of Hyderabad	8.34	13.45
State Bank of Hyderabad	14.59	15.20
APDRP-DPCL	9.78	12
Weighted Average Rate of Interest		**13.34**

(14) The margin for BRPL has been considered as 6.10% for NON-CAPEX Loan (actual loan portfolio of 14.10% - MCLR of 8.00%). The details of actual portfolio as submitted by BRPL is as follows:

Name of the Bank	Closing Balance 31.12.2016	Total
	(in Rs. Cr.)	(%)
IDBI Bank	540.00	14.40
IDBI Bank	111.80	13.40
Punjab National Bank	52.50	14.10
Bank of Baroda	29.04	13.40
The Federal Bank Ltd.	5.24	13.40
State Bank of Mysore	16.80	14.65
Dena Bank	49.69	13.40
South Indian Bank	29.34	13.40
Karnataka Bank	19.59	13.40
Weighted Average Rate of Interest		**14.10**

(15) The margin for BYPL has been considered as 6.05% for CAPEX and Non CAPEX Loan (actual loan portfolio of 14.05% - MCLR of 8.00%). The details of actual portfolio as submitted by BYPL is as follows:

Sr. No.	Bank /Lender Name	Closing Balance 31/12/2016	ROI as on 31/12/2016
1	IDBI Bank	511.88	14.40%
2	IDBI Bank	65.13	13.40%

Sr. No.	Bank /Lender Name	Closing Balance 31/12/2016	ROI as on 31/12/2016
3	IDBI Bank	25.00	16.40%
4	Punjab National Bank	41.25	13.60%
5	Bank of Baroda	37.95	13.40%
6	Axis Bank	32.25	11.60%
7	State Bank of Mysore	13.61	14.65%
8	Dena Bank	32.60	13.40%
9	South Indian Bank	44.33	13.40%
10	Federal Bank	12.38	13.40%
11	Karnataka Bank	30.51	13.40%
Weighted Average Rate of Interest			**14.05%**

(16) Due to non availability of past data for loans availed by NDMC, the margin for NDMC has been considered on the basis of credit rating 0f AA+ assigned to them by CARE http://www.careratings.com/upload/CompanyFiles/PR/NEW%20DELHI%20MUNICIPAL%20COUNCIL-07-20-2016.pdf and

as per Press Information Bureau Government of India Ministry of Urban Development dtd. 26/03/2017 (http://pib.nic.in/newsite/PrintRelease.aspx?relid=159951).

(17) Further, as per marginal cost of funds based lending rate (MCLR) introduction of new lending rate system commercial advance of SBI, the spread for 0.10% for credit rating facility of AA+ for NDMC has been considered as the margin for the rate of interest on loan.

GENERATING ENTITY

(18) The Commission has analyzed the audited financial statements of FY 2011-12 to FY 2015-16 submitted by the Generation Companies in order to determine the Margin for Rate of Interest on Loan for the Control Period (FY 2017-18 to FY 2019-20). It is observed from the said audited financial statements of FY 2015-16 that the actual rate of interest varies from 9.5% to 13% on existing loans.

(19) In view of the above, weighted average Rate of Interest based on the Amount and Rate of Interest on existing loans based on the repayment schedule of IPGCL and PPCL (as reflected in the audited financial statements) has been considered for the purpose of computation of Margin for Rate of Interest on Loan. The detailed computation is as follows:

IPGCL					
Sr. No.	**Particulars**	**Rate of Interest**	**Outstanding Loan in Rs Cr (17-18)**	**Outstanding Loan in Rs Cr (18-19)**	**Outstanding Loan in Rs Cr (19-20)**
1	GONCTD	13%	2.69	0	0
2	GONCTD	11.50%	10.99	10.99	8.90
3	GONCTD	9.50%	18.00	18.00	18.00
4	Weighted Average Rate of Interest		10.49%	10.26%	10.16%
5	1 year SBI MCLR		8.00%	8.00%	8.00%
6	**Margin**		**2.49%**	**2.26%**	**2.16%**

PPCL					
Sr. No	**Particulars**	**Rate of Interest**	**Outstanding Loan in Rs Cr (17-18)**	**Outstanding Loan in Rs Cr (18-19)**	**Outstanding Loan in Rs Cr (19-20)**
1	PFC	12%	136.83	136.83	136.83
2	GONCTD	9.50%	73.33	73.33	73.33
3	Weighted Average Rate of Interest		11.13%	11.13%	11.13%
4	1 year SBI MCLR		8.00%	8.00%	8.00%
5	**Margin**		**3.13%**	**3.13%**	**3.13%**

TRANSMISSION LICENSEE

(20) The Commission has analyzed the submissions of DTL in order to determine the Margin for Rate of Interest on Loan for the Control Period (FY 2017-18 to FY 2019-20) under Tariff Regulations, 2017. It is observed that the actual rate of interest varies from 9.40% to 10.00% on existing loans.

(21) In view of the above, weighted average Rate of Interest based on the Amount and Rate of Interest on outstanding loans as on 31/03/2017 (as reflected in the relevant submissions of DTL) has been considered for the purpose of computation of Margin for Rate of Interest on Loan. The detailed computation is as follows:

Sl. No.	**Particulars**	**Rate of Interest**	**Outstanding Loan in Rs Cr as on 31.03.2017**
1	Bonds	9.50%	160
2	SBI	9.40%	324
3	Allahabad Bank	9.70%	350
4	GONCTD	10.00%	624

Sl. No.	Particulars	Rate of Interest	Outstanding Loan in Rs Cr as on 31.03.2017
5	GONCTD	9.50%	395
6	Weighted Average Rate of Interest		9.69%
7	1 year SBI MCLR		8.00%
8	**Margin**		**1.69%**

6. CAPITAL INVESTMENT PLAN

PROVISIONS IN DRAFT BUSINESS PLAN REGULATIONS, 2017

GENERATING ENTITY

" 7. CAPITAL INVESTMENT PLAN

(1) The tentative Capital Investment plan for Gas Turbine Power Station for FY 2017-18 to FY 2019-20 is as follows:

Table 4:Capital Investment plan (in Rs. Cr.)

Sr. No.	*Description*	*2017-18*	*2018-19*	*2019-20*	*Efficiency Improvement*
1	*Procurement and commissioning of exhaust plenum for GT # 1*	*1.45*	*0*	*0*	*Reduction in Gross Station Heat Rate*
2	*Replacement of Steam Ejector with Vacuum Pump Mod-1,2,3*	*0.35*	*0.35*	*0.35*	*Increase in output power*
3	*Installation of VFD in Condensate Extraction Pump (CEP) Mod-I,2,3*	*0.08*	*0.08*	*0*	*Reduction in Auxiliary Consumption*
4	*Procurement of steam turbine rotor/GBC/ Inner casing/Steam glands, for steam turbine (34MW)-Mod-2*	*0*	*17*	*0*	*Increase in output power*
5	***Total***	***1.88***	***17.43***	***0.35***	

(2) The Capital investment and the respective scheduled date of commissioning, submitted by the Generating Entity in the Annual Tariff Petition, shall form the basis for computation of Annual Fixed Cost in terms of Regulation 99 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017.

(3) Energy Charge Rate in terms of Regulation 103 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 shall be computed with improved operational parameters resulting from commissioning of the Additional Capital Investment in existing generating stations from the scheduled date of commissioning of the respective schemes.

(4) Capital cost shall be trued up annually and financial impact on account of variation in projected capital cost in the tariff order vis-a-vis actual capital cost and scheduled date of commissioning vis-a-vis actual date of commissioning shall be dealt as per the provisions of

Regulations 61, 62 and 150 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017."

TRANSMISSION LICENSEE

14. CAPITAL INVESTMENT PLAN

(1) The tentative Capital Investment Plan for the Transmission Licensee for FY 2017-18 to FY 2019-20 is as follows:

Table 9: Capital Investment plan (in Rs. Cr.)

Sr. No.	Details of scheme	2017-18	2018-19	2019-20
1	New Works			
	400 kV			
a	Substations	-	-	-
b	Lines	-	-	130
	220 kV			
c	Substations	560	480	285
d	Lines	204	458	550
e=a+b+c+d	Sub Total	764	938	965
2	Automation Works			
a	400 kV	-	-	20
b	220 kV	-	-	152
c=a+b	Sub Total	-	-	172
3	Augmentation Works			
a	400 kV	7	-	-
b	220 kV	162	43	52
c	66kV and below	35	36	4
d=a+b+c	Sub Total	204	79	56
4	Land Cost			
	Land	20	20	20
5=1+2+3+4	**Grand Total**	**988**	**1037**	**1213**

(2) The Capital investment and the respective scheduled date of commissioning, submitted by the Transmission Licensee in the Annual Tariff Petition, shall form the basis for computation of Annual Fixed Cost in terms of Regulation 111 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017.

(3) Capital cost shall be trued up annually and financial impact on account of variation in projected capital cost in the tariff order vis-a-vis actual capital cost and scheduled date of commissioning vis-a-vis actual date of commissioning shall be dealt as per the provisions of Regulations 61, 62 and 150 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017.

DISTRIBUTION LICENSEE

21. CAPITAL INVESTMENT PLAN

(1) The tentative Capital Investment Plan in terms of Regulation 4(4) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for the Distribution licensee shall be as follows:

Table 16: Capitalisation for BRPL for the Control Period (in Rs. Cr.)

Particulars	2017-18	2018-19	2019-20	Total
Capitalization	425	439	449	1313
Smart Meter	87	87	87	262
Less: Deposit Work	40	41	42	123
Total	**472**	**485**	**494**	**1452**

Table 17: Capitalisation for BYPL for the Control Period (in Rs. Cr.)

Particulars	2017-18	2018-19	2019-20	Total
Capitalization	331	345	349	1025
Smart Meter	64	64	64	191
Less: Deposit Work	11	11	12	34
Total	**384**	**398**	**401**	**1182**

Table 18: Capitalisation for TPDDL for the Control Period (in Rs. Cr.)

Particulars	2017-18	2018-19	2019-20	Total
Capitalization	423	414	414	1251
Smart Meter	66	66	66	198
Less: Deposit Work	50	50	50	150
Total	**439**	**430**	**430**	**1299**

(2) The Licensee shall submit the quarterly Capital investment plan along with scheduled date of Commissioning in the Annual Tariff Petition for the relevant year, which shall form the basis for computing the Fixed Cost in terms of Regulation 130 (c) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017.

(3) The Distribution Licensee shall submit an application including details of actual Capitalisation on quarterly basis for physical verification and true up of capital cost within 1 (one) month of the completion of the relevant quarter.

(4) The quarterly Capital Cost submitted by the Distribution Licensee as per aforesaid sub-Regulation (3) shall be trued up by the Commission and financial impact on account of variation in projected capital cost in the tariff order vis-a-vis actual capital cost & scheduled date of commissioning vis-a-vis actual date of commissioning shall be treated in Annual true up of relevant financial year as follows:

(a) Any excess tariff recovered on account of variation in projected capitalization in the tariff order vis-a-vis trued up capitalization by more than 10% during the year, shall be

adjusted in the Revenue Gap/Surplus of the relevant year along with interest rate at 1.20 times of the bank rate prevalent on 1st April of respective year:

Provided that any excess tariff recovered on account of variation in projected capitalization in the tariff order vis-a-vis trued up capitalization due to reasons beyond the control of the Distribution Licensee i.e., delay in 'In-principle' approval of the schemes, road cutting permission from the concerned agencies etc., shall be adjusted in the Revenue Gap/Surplus of the relevant year along with interest rate equal to bank rate prevalent on 1st April of respective year.

(b) Any shortfall in tariff recovered on account of variation in projected capitalization in the tariff order vis-a-vis trued up capitalization by more than 10% during the year, shall be adjusted in the Revenue Gap/Surplus of the relevant year along with interest rate at 0.80 times of the bank rate prevalent on 1st April of respective year."

EXPLANATORY NOTES

(22) The Commission has indicated tentative Capital Investment plan as submitted by the utilities during the Control Period FY 2017-18 to FY 2019-20.

(23) The Licensee shall submit the Capital investment plan along with scheduled date of Commissioning in the Annual Tariff Petition for the relevant year, which shall form the basis for computing the Fixed Cost/Tariff for various Utilities.

(24) Further, the Capital cost for Generating Entity and Transmission Licensee shall be trued up annually and financial impact on account of variation in projected capital cost in the Tariff Order vis-a-vis actual capital cost and scheduled date of commissioning vis-a-vis actual date of commissioning shall be dealt as per the provisions of DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017.

(25) The Distribution Licensee shall submit an application including details of actual Capitalisation on quarterly basis for physical verification and true up of capital cost within 1 (one) month of the completion of the relevant quarter, to avoid any delay in True up process of the Capital investment.

(26) The quarterly Capital Cost submitted by the Distribution Licensee shall be trued up by the Commission and financial impact on account of variation in projected capital cost in the tariff order vis-a-vis actual capital cost & scheduled date of commissioning vis-a-vis actual date of commissioning shall be adjusted in annual tariff order.

7. OPERATION AND MAINTENANCE EXPENSES

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

GENERATING ENTITY

(1) Normative Operation and Maintenance expenses in terms of Regulation 4(3) and Regulation 92 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for the Generating Entity shall be as follows :

(a) Normative Operation and Maintenance expenses for existing generating stations shall be as follows :

Table 2: O&M Expenses (Rs. Lakh/ MW)

Station	2017-18	2018-19	2019-20
GTPS	29.66	31.32	33.08
PPS I	17.69	18.68	19.73

(b) Additional R&M Expenses for generating stations shall be as follows :

Table 3: Additional R&M Expenses (in Rs. Cr.)

Station	2017-18	2018-19	2019-20
GTPS	0.00	0.00	0.00
PPS I	16.12	16.12	0.00

(2) Impact of seventh pay commission on employee cost shall be considered separately, based on actual payment made by the Generation Entity and prudence check at the time of true up of ARR for the relevant financial year.

TRANSMISSION LICENSEE

(1) The Normative, Bay wise and Circuit kilometres wise, Operation and Maintenance expenses of a Transmission Licensee, including Own consumption of energy for Transmission Licensee's installations and offices, shall be as follows:

Table 7: Bay wise Norms for HVAC (Rs. Lakh/bay)

Voltage Levels	2017-18	2018-19	2019-20
400kV	45.23	47.76	50.44
220kV & below	15.30	16.16	17.06

Table 8: Circuit km wise Norms for HVAC lines (Rs. Lakh/ckm.)

Voltage Levels	2017-18	2018-19	2019-20
400kV	8.13	8.59	9.07
220kV	2.03	2.15	2.27

(2) Impact of seventh pay commission on employee cost shall be considered separately based on actual payment made by the Transmission Licensees and prudence check at the time of true up of ARR for the relevant financial year.

DISTRIBUTION LICENSEE

"(1) Normative Operation and Maintenance expenses in terms of Regulation 4(3) and Regulation 92 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for the Distribution Licensees shall be as follows:

Table 12: O&M Expenses for BRPL for the Control Period

Particulars	Unit	2017-18	2018-19	2019-20
66 kV Line	Rs. Lakh/ckt. km	3.454	3.648	3.853
33 kV Line	Rs. Lakh/ckt. km	3.454	3.648	3.853
11kV Line	Rs. Lakh/ckt. km	1.001	1.058	1.117
LT Line system	Rs. Lakh/ckt. km	5.170	5.460	5.766
66/11 kV Grid S/s	Rs. Lakh/MVA	0.933	0.986	1.041
33/11 kV Grid S/s	Rs. Lakh/MVA	0.933	0.986	1.041
11/0.415 kV DT	Rs. Lakh/MVA	2.209	2.333	2.464

Table 13: O&M Expenses for BYPL for the Control Period

Particulars	Unit	2017-18	2018-19	2019-20
66 kV Line	Rs. Lakh/ckt. km	4.421	4.669	4.931
33 kV Line	Rs. Lakh/ckt. km	4.421	4.669	4.931
11kV Line	Rs. Lakh/ckt. km	1.857	1.961	2.071
LT Line system	Rs. Lakh/Ckt. km	8.290	8.756	9.247
66/11 kV Grid S/s	Rs. Lakh/MVA	1.045	1.104	1.166
33/11 kV Grid S/s	Rs. Lakh/MVA	1.045	1.104	1.166
11/0.415 kV DT	Rs. Lakh/MVA	2.296	2.425	2.561

Table 14: O&M Expenses for TPDDL for the Control Period

Particulars	Unit	2017-18	2018-19	2019-20
66 kV Line	Rs. Lakh/ckt. km	3.297	3.482	3.678
33 kV Line	Rs. Lakh/ckt. km	3.297	3.482	3.678
11kV Line	Rs. Lakh/ckt. km	0.862	0.910	0.961
LT Line system	Rs. Lakh/ckt. km	6.372	6.730	7.107
66/11 kV Grid S/s	Rs. Lakh/MVA	0.927	0.979	1.034
33/11 kV Grid S/s	Rs. Lakh/MVA	0.927	0.979	1.034
11/0.415 kV DT	Rs. Lakh/MVA	1.326	1.400	1.479

Table 15: O&M Expenses for NDMC for the Control Period

Particulars	Unit	2017-18	2018-19	2019-20
66 kV Line	Rs. Lakh/ckt. km	3.297	3.482	3.678
33 kV Line	Rs. Lakh/ckt. km	3.297	3.482	3.678
11kV Line	Rs. Lakh/ckt. km	0.862	0.910	0.961
LT Line system	Rs. Lakh/ckt. km	5.170	5.460	5.766
66/11 kV Grid S/s	Rs. Lakh/MVA	0.927	0.979	1.034
33/11 kV Grid S/s	Rs. Lakh/MVA	0.927	0.979	1.034
11/0.415 kV DT	Rs. Lakh/MVA	1.326	1.400	1.479

(3) The Distribution Licensees shall be allowed own consumption, at Zero Tariff for actual recorded consumption subject to a maximum of 0.25% of total sales to its retail consumers for the relevant financial year as part of O&M expenses for the relevant year:

(4) Actual recorded own consumption in excess of 0.25% of total sales to its retail consumers for the relevant financial year, shall be billed at Non Domestic Tariff of respective year's

Tariff Schedule and shall form part of revenue billed and collected for the same year.

(5) Impact of seventh pay commission on employee cost shall be considered separately, based on actual payment made by the Distribution Licensees and prudence check at the time of true up of ARR for the relevant financial year. "

EXPLANATORY NOTES

(27) The Commission has considered the principle whether the normative O&M expenses should be specified in a consolidated manner or separately, as Employee Expenses, A&G expenses, and Repair & Maintenance Expenses for Generation Business, Transmission Business and Distribution Business.

(28) In case the O&M expenses are specified in a consolidated manner, then the utility has the flexibility to manage its expenditure through own resources (which will increase the employee expenses) or through outsourcing (which will increase the R&M expenses), as per their cost benefit analysis. However, under this methodology the variation in the individual heads of Expenses (Employee Expenses, A&G Expenses, and Repair & Maintenance Expenses) due to change in law, force majeure etc may not be assessed at the time of implementation of increase or decrease in individual head of expenditure. For instance, 7th Pay Commission revision has already been recommended by 7th Pay Commission which has to be implemented from 1/1/2016 for all the DVB employees based on the recommendations of pay committee formed by GoNCTD. However, the impact for the same has yet not been submitted by the utilities to the Commission. Therefore, the Commission has indicated in Draft Business Plan Regulations, 2017 this item as a separate item over and above the normative O&M Expenses as the same is expected to be implemented during the Control Period, as follows:

" (2) Impact of seventh pay commission on employee cost shall be considered separately, based on actual payment made by the Generation Entity and prudence check at the time of true up of ARR for the relevant financial year.

...

Impact of seventh pay commission on employee cost shall be considered separately based on actual payment made by the Transmission Licensees and prudence check at the time of true up of ARR for the relevant financial year.

...

Impact of seventh pay commission on employee cost shall be considered separately, based on actual payment made by the Distribution Licensees and prudence check at the time of true up of ARR for the relevant financial year. "

(29) In case the O&M expenses are specified separately as Employee Expenses, A&G expenses, and Repair & Maintenance Expenses then the benchmarking of these expenses for different Licensees/Utilities of same sector may not be feasible as has also been indicated by the Hon'ble APTEL in its various judgments indicated in the subsequent paras.

(30) The Hon'ble APTEL in its judgement in Appeal No. 36 of 2008 dtd. 06/10/2009 has examined the methodology of O&M Expenses of the Commission as follows:

" 74) Having gone through the impugned order we do find that the Commission has not considered the issue of possible increase in the number of employees consequent on increase in the consumer base. Nor has the Commission ruled on the appellant's proposal to increase the salaries etc. The Commission has nonetheless assured to true up the employees expenses subject to prudence check. The Commission shall also take care of the related carrying cost. This should satisfy the appellant.

75) It may be stated here that the recommendations of salary hike made by the 6th Pay Commission takes into account the need to retain & attract talent. The appellant has not justified the need for any further hike by any factual data. One may expect better talent to be attracted to the sector in case salaries are further hiked. Yet one cannot lose sight of the fact that the consumers will have to bear the burden of such salary hike. Any hike in salary, not comparable to 6th Pay Commission's recommendation and not sufficiently justified cannot be allowed as pass through in tariff. We thus conclude the issue of employees' expenses by saying that the Commission shall allow the expenses incurred towards the retirement benefit of SVRS optees pending decision of the Acturial Arbitration Tribunal and shall true up the employee expenses to the extent of increase caused by increase in the consumer base. So far as salary hike is concerned to the extent hike comparable to the recommendations of 6th Pay Commission to employees other than the erstwhile DVB employees shall also be allowed in the truing up process in case expenditure in that account has actually been incurred.
76) A word of caution. The consumer respondents have submitted that the purpose behind any VRS Scheme is to rationalize employees cost and so the expenditure on account of VRS should not be more than the eventual cost saving by reducing the number of employees. Some consumers have said that the expenditure on VRS should be tariff neutral. There is much strength on the contention of the consumers. The Commission as well as the appellant have to ensure that SVRS eventually lead to cost saving and further that such cost saving is passed on to the consumers."

(31) Further, the Hon'ble APTEL in its judgement in Appeal No. 171 of 2012 dtd. 10/02/2015

has examined the methodology of O&M Expenses of the Commission as follows:

" 10.6 As per the 2011 Tariff Regulations, the base year O&M expenses have to be approved taking into account the latest available audited accounts, business plans filed by the licensee, estimates of actual for the base year and any other factor considered appropriate by the Commission. The base year for the control period 2012-13 to 14-15 is 2011-12. However, in the impugned order the State Commission has adopted an altogether new methodology for fixing the employees cost and A&G expenses for the base year, without considering the audited accounts, business plan and the estimates of the licensee, in contravention to the 2011 Tariff Regulations. Admittedly, the Regulation 5.4 also provides for 'any other factor considered appropriate by the Commission' but this does not permit use of an altogether new method on the basis of average %age increase of employees expenses and A&G expenses per unit sale and per consumer of the three distribution licensees for the period from FY 2006-07 to 2010-11, ignoring other factors specified in the Regulations.

10.7 We find deficiencies in the methodology used by the Commission. The methodology adopted by the Commission is based on the average %age increase of the cost per unit sales and cost per consumer from 2006-07 to 2010-11. The methodology does not account for comparative cost per unit sale and cost per employees in the FY 2006-07 and FY 2010-11. Thus, if the cost per employee or cost per unit sale of a distribution company is lower in the FY 2006-07 but its % age increase is higher, the company will be penalized. This methodology also does not take into account the comparative cost per unit sales and cost per consumer in FY 2010-11, but only accounts for %age increase from 2006-07 to 2010-11.

10.8 We find that the A&G expenses per unit sales of the Appellant is the lowest of all the Discoms in FY 2006-07 and FY 2010-11 but its %age increase in cost is the highest. Therefore, despite the lowest cost, it will be penalized for higher %age increase. Similarly A&G expenses per consumer of the Appellant is the lowest in FY 2006-07 and is also lower than BRPL in FY 2010-11, despite this, since its %age increase in cost per consumer is the highest, it will be penalized. Similar discrepancy is also found in employees cost per unit sale and per consumer. The Commission should have considered the cost per unit sale and per employee instead of %age increase from 2006-07 to 2010-11. Higher percentage of increase may also be due to cost incurred in improvement in loss levels and quality of supply for 2006-07 to 2010-11. Therefore %age increase is an incorrect benchmark.

10.9 The methodology adopted by the Commission also does not take into account the different modes of works carried out by the distribution licensee. For example if a distribution licensee carries out more repaired maintenance work through third party contracts instead of own employees, then its maintenance will be higher. This company will be considered more efficient as per the norms adopted by the Commission even *though its overall O&M expenses may be higher than other companies. Comparison of O&M expenses per consumer or per unit sale which includes employees expenses, R&M expenses and A&G expenses will be correct and like to like comparison.*

10.10 The performance of the three distribution licensees may also be different. For example the employees and A&G expenses of a licensee who maintains higher system availability/reliability of supply and better consumer services may be higher. These factors have not been considered by the State Commission.

10.11 We are, however, not convinced by the contention of the Appellant that indexation factor should have been 8.6% instead of 8% as determined by the State Commission. As per the Regulations, the indexation has to be combination of CPI and WPI for immediately preceding five years before the base year. The Commission has correctly considered the CPI & WPI increase from 2006-07 to 2010-11 to determine the indexation factor as per the Regulations.

10.12 We find that the employees cost and A&G expenses have been determined in violation of the Tariff Regulations and, therefore, these are set aside along with the methodology used in determination of these expenses with direction to re-determine the same as per the Regulations."

(32) Further, the Commission in its Tariff Order dtd. 29/09/2015 has analysed the directions of Hon'ble APTEL in Appeal No. 36 & 37 of 2008, 171, 177 & 178 of 2012 and re-determined the O&M expenses for base year considering the following parameters for Distribution Licensees:

1) Actual Sales growth,
2) Increase in CPI and WPI,
3) Increase in Consumer Base and
4) Performance on account of reduction in AT&C Loss levels.

(33) The relevant extract of the Tariff Order dtd. 29/09/2015 is as follows:

" 3.149 The Commission has re-determined the Employee, A&G and R&M Expenses as per the directions of the Hon'ble APTEL in Appeal No. 171, 177 & 178 of 2012. Relevant extracts from the said judgments is as follows:
"10.12 We find that the employees cost and A&G expenses have been determined in violation of the Tariff Regulations and, therefore, these are set aside along with the methodology used in determination of these expenses with direction to re-determine

the same as per the Regulations.

…

The State Commission has determined the 'K' factor for the control period 2012-13 to 2014-15 as average of 'K' factor for the period 2008-09 to 2011-12 ignoring the FY 2007-08 ….

Therefore the 'K' factor for the control period has to be recalculated on the basis of 'K' factor for the FY 2007-08 to 2011-12."

3.150 One of the major objective of unbundling of Delhi Vidyut Board (DVB) was to provide for the constitution of an Electricity Regulatory Commission, restructuring of the electricity industry (rationalization of generation, transmission, distribution and supply of electricity), increasing avenues for participation of private sector in the electricity industry and generally for taking measures conducive to the development and management of the electricity industry in an efficient, commercial, economic and competitive manner in the National Capital Territory of Delhi and for matters connected therewith or incidental thereto. The relevant extract of the Delhi Electricity Reform Act, 2000 is as follows:

"To provide for the constitution of an Electricity Regulatory Commission, restructuring of the electricity industry (rationalisation of generation, transmission, distribution and supply of electricity), increasing avenues for participation of private sector in the electricity industry and generally for taking measures conducive to the development and management of the electricity industry in an efficient, commercial, economic and competitive manner in the National Capital Territory of Delhi and for matters connected therewith or incidental thereto."

3.151 As indicated above in Delhi Electricity Reforms Act, 2000, the Distribution Licensees should manage their expenses & operations in an Efficient, Commercial, Economic and Competitive manner. O&M expenses are one of the major indicators to judge whether efficiency has been brought into the system by controlling and managing day to day company's expenses which comprises of Employees, Administrative & General and Repair & Maintenance Expenses.

3.152 The Hon'ble APTEL has directed to re-determine O&M expenses by taking into consideration following factors:

a. MYT Regulations, 2011

b. Audited Financial Statements for FY 2011-12,

c. R&M expenses for FY 2007-08,

d. Different modes of work carried out by the Distribution Licensees,

e. Performance of Distribution Licensees.

3.153 In view of the above directions of the Hon'ble APTEL, the Commission has re-determined

the O&M Expenses i.e., Employee Expenses, A&G Expenses and R&M

Expenses by considering the following factors:

a. MYT Regulations, 2011 and

b. Audited Financial Statements for FY 2011-12

3.154 The O&M Expenses has been determined as per Regulation 5.4 of the MYT Regulations, 2011 reproduced as follows:

"…The O&M expenses for the Base year shall be approved by the Commission taking into account the latest available audited accounts, business plan filed by the licensees, estimates of the actuals for the Base year, prudence check and any other factor considered appropriate by the Commission.

3.155 Accordingly, the Commission has now considered the Audited Financial Statements for FY 2011-12 for determination of base year O&M Expenses.

c. Different modes of work carried out by the Distribution Licensees and

d. Performance of Distribution Licensees

3.156 The Commission has re-determined the O&M Expenses for the Petitioner without comparing with other Distribution Licensees operating in the area of GoNCTD.

3.157 The base year (FY 2011-12) O&M Expenses has been determined considering the actual O&M expenses incurred by the Petitioner during 1st MYT Control Period (FY 2007-08 to FY 2011-12). The actual growth in individual parameters (Employee Expenses, A&G Expenses and R&M Expenses) has been analyzed with the:

1) *Actual Sales growth,*
2) *Increase in CPI and WPI,*
3) *Increase in Consumer Base and*
4) *Performance on account of reduction in AT&C Loss levels.*

(34) In view of the above, the Commission had two options for computation of O&M expenses either on the basis of individual weightage of Actual Sales growth, Increase in CPI and WPI, Increase in Consumer Base and Performance on account of reduction in AT&C Loss levels or considering the Network details (Capacity of S/s and Line Lengths) which indirectly covers the all the parameters except increase in CPI and WPI.

(35) The Commission calculated the employee cost per unit of sales and employee cost per consumer served for previous years to take into account the impact of sales and number of consumers on the employee cost of the DISCOMs. The detailed methodology for computation of O&M expenses is detailed in the MYT Tariff Order for FY 2012-13 to FY 2014-15 of the respective DISCOMs.

(36) The Commission has notified Delhi Electricity Regulatory Commission (Terms and Conditions for determination of Tariff) Regulations, 2017 on 31/01/2017. Relevant extracts for determining O&M expenses of Distribution Licensees is as under:

" OPERATION AND MAINTENANCE (O&M) EXPENSES

The Utilities shall be allowed Operation and Maintenance expenses on normative basis including expenses for raising the loan for funding of Working Capital and Regulatory Asset as specified by the Commission in the Business Plan Regulations for the respective Control Period:

Provided that the Normative O&M expenses for the respective Control Period shall not be trued up;

Provided further that the water charges, statutory levy and taxes under O&M expenses if indicated separately in the audited financial statement shall not form part of Normative O&M expenses.

Escalation to be allowed for adjustment towards increase in inflation, consumer price index (CPI), wholesale price index (WPI) etc. shall be as specified in the Business Plan Regulations for the respective Control Period.

Normative Operation and Maintenance expenses of a new Generating Entity shall be as per the norms approved by the CERC in Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 as amended from time to time, for respective year unless specifically approved by the Commission.

Normative Operation and Maintenance expenses of existing Generating Entity shall be as specified in the Business Plan Regulations for the respective Control Period.

The Commission shall specify the target for Normative Operation and Maintenance expenses of the Transmission Licensee in the Business Plan Regulations for the respective Control Period.

Provided that the Commission may specify Normative Operation and Maintenance expenses target of a Transmission Licensee on the basis of number of Bays and Circuit Kilometres.

Normative Operation and Maintenance expenses of a Distribution Licensee shall consist of:

- *(a) Employee Expenses,*
- *(b) Administrative and General Expenses; and*
- *(c) Repair and Maintenance Expenses.*

Normative Operation and Maintenance expenses of a Distribution Licensee for a Control Period shall be derived on the basis of audited Operation and Maintenance expenses for last five (5) completed Financial Years vis-à-vis normative Operation and

Maintenance expenses allowed by the Commission during the corresponding period based on the following parameters:

(a) Load growth,
(b) Consumer growth,
(c) Commercial loss,
(d) Distribution loss,
(e) Inflation,
(f) Efficiency,
(g) Capital base and,
(h) Any other factor."

(37) It is observed that the O&M expenses are directly related to actual assets installed at site and its maintenance to provide services to the consumer. O&M Expenses varies as per the consumer mix i.e., Domestic/Non Domestic/Industrial etc. & supply at different voltage levels i.e., LT/11kV/33kV/66kV. It is pertinent to state that the O&M Expenses upto 11kV level majorly varies as per the line length of the network whereas for LT level the Consumer mix play a vital role. Therefore, the Commission proposes to compute the O&M expenses on the basis of capacity of assets installed at site i.e., per circuit km of line & per MVA capacity of transformation at various voltage levels without comparing the O&M Expenses of individual DISCOMs.

(38) The Commission had sought the data from the Distribution Licensees about their distribution network capacities installed at site for last five years, as on 31st March for respective financial years, and the projections of the capacities to be installed to meet the demand in future.

(39) The DISCOMs have submitted the actual O&M expenses incurred during the last five years from FY 2011-12 to FY 2015-16. However, the exact allocation of these expenses in various components of network i.e. lines and grids for various capacities & voltage levels, is not available with the DISCOMs. Therefore, the Commission felt that the allocation of O&M expenses may be done on the different voltage levels as under:

Particulars	% of O&M Expenses	Applicability
LT Voltage level	70%	N.A.
HT Voltage level	20%	8% in line and 12% in grid
EHT Voltage level	10%	4% in line and 6% in grid

(40) Accordingly, per unit values have been computed based on the above methodology and data submitted by the Distribution licensee is as under:-

(i) In the actual expenditure incurred by DISCOMs, the expenditure incurred towards legal fee, legal claims, rebate paid to the consumer on monthly bills, provisions, loss on sale of retired assets have not been considered.

(ii) The balance actual expenditure incurred by DISCOMs on Employee Expenses, Administrative and General Expenses and Repair and Maintenance Expenses from FY 2011-12 to FY 2015-16 was allocated to various capacities of network at EHT, HT & LT level, in the aforesaid proportion.

(iii) Per unit expenses on various components were worked out on the basis of allocated Employee Expenses, Administrative and General Expenses and Repair and Maintenance Expenses and the installed capacity of the component as on 31st March of respective financial year.

(iv) The average of these per unit factors were computed and the average values were considered to be the values for FY 2013-14 (mid-year of FY 2011-12 to FY 2015-16).

(v) In order to arrive at the values for FY 2017-18, an escalation of **5.61%** (indicated in the subsequent paras on the basis of CPI & WPI), on year to year basis was provided.

(vi) Per unit values for the network for Employee Expenses, Administrative and General Expenses and Repair and Maintenance Expenses have been computed for FY 2017-18, FY 2018-19 and FY 2019-20 by providing an escalation of 5.61% on year to year basis.

(vii) Per unit values for O&M expenses have been computed by adding the per unit values for Employee Expenses, Administrative and General Expenses and Repair and Maintenance Expenses for FY 2017-18, FY 2018-19 and FY 2019-20.

(41) The normative unit rates of O&M expenses for distribution lines have been worked out as per **circuit km length** of distribution lines and **MVA transformation capacity** basis for the sub-stations. The per unit values have been derived on the basis of actual O&M expenses and the network capacities of a distribution licensee, therefore, these per unit values are different for different distribution licensees.

(42) The additional impact of 7th Pay Commission has not been considered while determining these O&M expenses. The actual impact of 7th Pay Commission for FY 2017-18 shall be allowed based on the claim of the DISCOM and prudence check by the Commission in the year of actual payment. The impact for subsequent years shall be allowed on normative basis by proving an escalation of 5.61% on year to year basis.

(43) The Commission has not considered the expenditure incurred on account of legal fee. Further, the Commission is of the view that legal expenses incurred on cases filed against the decisions of the Commission in any of the Courts and Forums shall not be allowed as pass through in the ARR. The legal expenses incurred on cases other than aforesaid, shall be claimed by the DISCOMs in Tariff petitions which may be allowed separately after prudence check in true-up order for respective year.

(44) Due to non-submission of data by NDMC, the Commission has considered minimum per unit values under each head of all the three DISCOMs as per unit values in ckm and in MVA for NDMC.

(45) The Commission has not considered the expenditure incurred towards rebate paid to the consumers on energy bills, based on the explanation as provided in the Tariff Order for FY 2013-14, wherein the Commission has followed the approach of providing rebate to the consumers instead of revising interest on working capital.

(46) The loss or gain on account of sale of retired assets shall be dealt as per the provisions of Delhi Electricity Regulatory Commission (Terms and Conditions for determination of Tariff) Regulations, 2017.

(47) It is also observed that this methodology has been adopted for the first time for determination of O&M expenses based on the network capacities installed by the distribution licensees. Since, the Distribution Licensees have not been allocating the O&M expenses on the basis of capacities & voltage levels, therefore the DISCOMs are directed to book the actual O&M expenses in future as per the actual expenditure incurred in such heads.

(48) The Commission may get verified the network data furnished by Distribution Licensee. In case, it is found that the Distribution Licensee has over recovered the O&M expenses due to incorrect network data furnished by them, and may require the Distribution Licensee to refund the excess amount recovered along with interest rate @ 1.20 times of the bank rate as prevalent on 1st April of the respective year. However, any under recovery of O&M

expenses on account of the incorrect network data furnished by DISCOM, the Commission may consider to allow the same to be recovered by the Distribution Licensee without any carrying cost.

GENERATING ENTITY

(49) For Generation Business, the O&M expenses are specified in a consolidated manner, in terms of Rs. lakh/MW of capacity. For Transmission Business, the consolidated O&M expenses are typically linked to the number of bays in sub-stations and circuit kilometres of transmission lines.

(50) The Commission has specified the Normative O&M expenses of Generating Stations based on the actual O&M expenses incurred by the Generation Companies as per the audited financial statements for FY 2015-16. It is observed from the audited financial statements of Pragati Power Station I that an expenditure of Rs. 64.46 Cr incurred for conducting Advance Hot Gas Path Inspection has been included under O&M expenses for which the warranty clause has specified that benefit of this expenditure will accrue in next four years from the date of expenditure (FY 2015-16).

The Commission has provided additional R&M expenses to PPS I for allowance of the additional R&M to be incurred for which the benefit accrued to the generating stations for more than one year based on the number of running hours of the plant and time period. It is further, clarified that the O&M expenses excluding the additional R&M i.e. Dry Low NOX, Sewage Treatment Plant and Advance Hot Gas Path Inspections etc. shall be part of the normative O&M expenses of the generating stations which shall not be trued up during the control period. Additional R&M expenses shall be trued up based on the prudence check of actual expenditure incurred by the generating stations.

TRANSMISSION LICENSEE

(51) For Transmission Licensee, the O&M expenses are specified combination of bay wise and circuit kilometre wise.

(52) The CERC (Terms and Conditions of Tariff) Regulations, 2014 has specified the norms for O&M expenses for Transmission Licensees handling inter-State transmission of power, wherein voltage-wise norms as well as separate norms for line assets and substation assets have been specified.

"29. Operation and Maintenance Expenses:

…….. ***(3) Transmission system***

(a) The following normative operation and maintenance expenses shall be

admissible for the transmission system:

Norms for sub-stations (in Rs Lakh per bay)	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
765 kV	84.42	87.22	90.12	93.11	96.20
400 kV	60.30	62.30	64.37	66.51	68.71
220 kV	42.21	43.61	45.06	46.55	48.10
132 kV and below	30.15	31.15	32.18	33.25	34.36
400 kV Gas Insulated Substation	51.54	53.25	55.02	56.84	58.73
Norms for AC and HVDC lines (in Rs Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.707	0.731	0.755	0.780	0.806
Single Circuit (Bundled Conductor with four subconductors)	0.606	0.627	0.647	0.669	0.691
Single Circuit (Twin & Triple Conductor)	0.404	0.418	0.432	0.446	0.461
Single Circuit (Single Conductor)	0.202	0.209	0.216	0.223	0.230
Double Circuit (Bundled conductor with four or more sub-conductors)	1.062	1.097	1.133	1.171	1.210
Double Circuit (Twin & Triple Conductor)	0.707	0.731	0.755	0.780	0.806
Double Circuit (Single Conductor)	0.303	0.313	0.324	0.334	0.346
Multi Circuit (Bundled conductor with four or more sub-conductors)	1.863	1.925	1.989	2.055	2.123
Multi Circuit (Twin & Triple Conductor)	1.240	1.282	1.324	1.368	1.413
Norms for HVDC Stations					
HVDC Back–to-back stations (Rs. Lakh per 500 MW)	578	627	679	736	797
Rihand-Dadri HVDC bipole scheme (Rs. Lakh)	1511	1637	1774	1922	2082
Talcher- Kolar HVDC bipole scheme (Rs. Lakh)	1173	1271	1378	1493	1617
Balia-Bhiwadi HVDC bipole scheme (Rs. Lakh)	1537	1666	1805	1955	2119

Provided that operation and maintenance expenses for new HVDC bi-pole scheme for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expense for 2000 MW, Talcher-Kolar HVDC bi-pole scheme for the respective year:

Provided further that the O&M expenses norms for HVDC bi-pole line shall be considered as Single Circuit quad AC line.

(b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of bays and kms of line length with the applicable norms for the operation and maintenance expenses per bay and per km respectively.

(c) The operation and maintenance expenses of communication system forming part of inter-state transmission system shall be derived on the basis of the actual O&M expenses for the period of 2008-09 to 2012-13 based on audited accounts excluding

abnormal variations if any after prudence check by the Commission. The normalized O&M expenses after prudence check, for the years 2008-09 to 2012-13 shall be escalated at the rate of 3.02% for computing base year expenses for FY 2012-13 and 2013-14 and at the rate of 3.32% for escalation from 2014-15 onwards."

(53) For Transmission Business, the consolidated O&M expenses are typically linked to the number of bays in sub-stations and circuit kilometres of transmission lines. For determination of O&M norms, O&M expenses are needed to be allocated amongst substation bays and ckt-km in some ratio depending on ratio of gross fixed asset (GFA) for substations and transmission lines, and manpower required to cater to bays and lines. While determining the O&M norms, the total O&M expenses have to be allocated in some ratio between transmission bays and transmission lines, based on which, the normative O&M expense per circuit-km and O&M expense per bay has to be calculated.

(54) The Transmission Licensee has provided split of R&M Expenses into bay wise and circuit kilometre wise and further into Voltage wise (220 kV and 400 kV). The Commission has considered same ratio for total O&M expenses (excluding Foreign Exchange Currency Fluctuation and External Project Cost).

(in Rs. Cr)

O&M Expenses	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Employee Expenses	116.43	134.40	127.47	136.94	141.68
A&G Expenses	22.26	30.42	31.37	55.61	38.07
R&M Expenses	29.70	21.14	22.35	35.70	34.93
TOTAL	**168.39**	**185.96**	**181.19**	**228.25**	**214.67**

(in Rs. Cr)

R&M Expenses	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Bay	26.40	19.62	19.97	37.75	29.98
Ckm	4.40	2.91	3.55	6.47	5.87
Total	30.80	22.53	23.52	44.22	35.85
Ratio Bay	85.71%	87.09%	84.91%	85.37%	83.62%
Ratio Ckm	14.29%	12.91%	15.09%	14.63%	16.38%

(in Rs. Cr)

Voltage Wise - Bay					
Particulars	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**FY 2015-16**
400kV	5.09	2.90	2.89	4.36	3.14
220 kV and below	21.31	16.72	17.09	33.39	26.83
Total	26.40	19.62	19.97	37.75	29.98
Ratio 400 kV	19.28%	14.79%	14.45%	11.54%	10.48%
Ratio 220 kV and below	80.72%	85.21%	85.55%	88.46%	89.52%

Description	Percentage	Rounded Percentage
Average 400 kV Bay	14.11%	14.00%
Average 220 kV and below Bay	85.89%	86.00%

Description	No. of Bays
400kV	63
220kV and below Bay	1144

Excluding spare bay and bus-section bay for computation of bay wise norms

(55) The Commission has further computed the ratio of expenditure in 400kV and 220kV as 24% and 76% respectively based on the actual R&M expenditure for FY 2015-16 and considered the same ratio for computation of part of O&M Expenses into ckm wise – voltage wise.

(56) In view of the above, the Commission has modified the O&M Expenses methodology and brought it in line with that followed by CERC and other SERCs like GERC, MERC etc. as combination of bay wise and circuit kilometre wise.

INFLATION FACTOR

(57) The Commission has also analysed the trend of increase in O&M expenditure of the utilities and it is observed that there is no definite trend available for the expenditure escalation to be considered for the control period. It is observed that CERC in its Tariff Regulation, 2014 has determined the escalation factor based on the average increase during the previous years in actual O&M expenses of the Utilities. Therefore, the Commission has computed the Escalation Factor by assigning weightage of 50:50 to WPI and CPI for last five years data for actual CPI and WPI. CPI has been considered for "All commodities". The detailed computation of Escalation Factor computation is as follows:

Sr. No.	Year	CPI for all commodities	%age Growth	WPI for all commodities	%age Growth
1	FY 2011-12	195		156.1	
2	FY 2012-13	215	10.26%	167.6	7.37%
3	FY 2013-14	236	9.77%	171.6	2.39%
4	FY 2014-15	251	6.36%	181.2	5.59%
5	FY 2015-16	265	5.58%	176.7	-2.48%
6	Average		**7.99%**		**3.22%**

Source: RBI

Escalation Factor = (7.99+3.22)/2 = 5.61%

8. NORMATIVE ANNUAL PLANT AVAILABILITY FACTOR (NAPAF)

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

" Normative Annual Plant Availability Factor and Normative Annual Plant Load Factor for existing generating stations of Delhi shall be as follows :

I. Normative Annual Plant Availability Factor (NAPAF) : 85%

EXPLANATORY NOTES

(58) It is observed that GTPS has achieved the target Availability i.e. 80% (for the last Control Period) and has even exceeded the level of 85% in FY 2013-14. Further, as per the submission of IPGCL, the reason of lower availability for of GTPS for both FY 2014-15 and FY 2015-16 was due to non functioning of Unit II which was brought back on board during FY 2015-16.

Control Period	Year	NAPAF (%)	Actual Availability (%)
1st MYT	FY 2007-08	70	60.98
	FY 2008-09	70	70.14
	FY 2009-10	70	73.28
	FY 2010-11	70	81.91
	FY 2011-12	70	79.41
2nd MYT	FY 2012-13	80	84.22
	FY 2013-14	80	85.76
	FY 2014-15	80	68.80
	FY 2015-16	80	74.81

(59) In view of the above and to encourage further improvements, the Commission has considered NAPAF for GTPS at 85% for the next Control Period (FY 2017-18 to FY 2019-20) in line with CERC Tariff Regulations, 2014.

(60) The Commission had specified NAPAF of 80% and 85% for PPS I in Tariff Regulations, 2007 and Tariff Regulations, 2011 respectively based on the performance of PPS I Station in the earlier Control Periods. The actual Availability against the corresponding NAPAF for PPS I in the past Control Periods is given below:

Control Period	Year	NAPAF (%)	Actual Availability (%)
1st MYT	FY 2007-08	80	84.08
	FY 2008-09	80	85.41
	FY 2009-10	80	85.50
	FY 2010-11	80	86.31
	FY 2011-12	80	92.61
2nd MYT	FY 2012-13	85	90.50
	FY 2013-14	85	92.62
	FY 2014-15	85	85.62
	FY 2015-16	85	90.25

(61) It is observed from the above table that PPS I has achieved the target norm of NAPAF i.e., 85% (for the last Control Period) and has even exceeded the level of 90% in FY 2011-12 to FY 2013-14.

(62) In view of the above, the Commission has considered NAPAF for PPS I at 85% for the next Control Period (FY 2017-18 to FY 2019-20) in line with CERC Tariff Regulations, 2014.

9. <u>NORMATIVE ANNUAL PLANT LOAD FACTOR (NAPLF)</u>

<u>PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017</u>

" Normative Annual Plant Availability Factor and Normative Annual Plant Load Factor for existing generating stations of Delhi shall be as follows :

I. Normative Annual Plant Load Factor (NAPLF) : 85%"

<u>EXPLANATORY NOTES</u>

(63) In line with CERC Tariff Regulations, 2014, the Commission has considered NAPLF for both GTPS and PPS I at 85%, which shall be interpreted as given below:

0 < PLF <= NAPLF - No Penalty and No Incentive

PLF > NAPLF - Incentive at Paise 25/ kWh for generation over and above NAPLF

10. GROSS STATION HEAT RATE (GHR)

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

" Gross Station Heat Rate for existing generating stations of Delhi shall be as follows:

Table 5:Gross Station Heat Rate (GHR)

Sr. No	Generating Station	Combined Cycle	Open Cycle
		(kCal/ kWh)	
1	Gas Turbine Power Station (GTPS)	2100	3045
2	Pragati Power Station I (PPS I)	2000	2900

"

EXPLANATORY NOTES

(64) IPGCL has submitted in its petition that the two Stations, GTPS and Assam GPS have similar unit size and thus be allowed same GHR. Assam GPS is allowed a GHR of 2500 kCal/ kWh in Combined Cycle and 3440 kCal/ kWh in Open Cycle mode by CERC in its Tariff Regulations, 2014. However, the two Stations are located at very distant locations with different terrains and are operating under different atmospheric conditions, thus the two Generating Stations are not comparable.

(65) The Commission had specified GHR (Combined Cycle – 2450 kCal/ kWh and Open Cycle – 3125 kCal/ kWh) for GTPS in both 1st MYT Tariff Regulations and 2nd MYT Tariff Regulations. The actual GHR for GTPS in the past Control Periods is given below:

Control Period	Year	Combined Cycle GHR (kCal/ kWh)		Open Cycle GHR (kCal/ kWh)	
		Target	Actual	Target	Actual
1st MYT	FY 2007-08	2450	2554	3125	3416
	FY 2008-09	2450	2553	3125	3397
	FY 2009-10	2450	2557	3125	3390
	FY 2010-11	2450	2504	3125	3394
	FY 2011-12	2450	2463	3125	3391
2nd MYT	FY 2012-13	2450	2439	3125	3449
	FY 2013-14	2450	2416	3125	3442
	FY 2014-15	2450	2503	3125	3473
	FY 2015-16	2450	2520	3125	3464
	FY 2016-17	2450	2462	3125	3442

(66) Further, the Commission analyzed few other Generating Stations with similar Unit Size,

Comparable Age and Location. A comparative statement is given below:

Sl. No.	Generating Station	Unit Size	Commissioning Year for first GT	Location	Allowed GHR	Remarks
1	Ram Garh Thermal Power Station (RGTPS) of Rajasthan Rajya Vidyut Utpadan Nigam Limited (RRVUNL)	2 Nos. GTs i.e. 1x35.5 MW & 1x37.5 MW and 1 ST of 37.5 MW	1996	Jaisalmer, Rajasthan	1950 kCal/ kWh (Combined Cycle) and 2850 kCal/ kWH (Open Cycle)	RERC Tariff Regulations, 2014
2	Vatva CCPP of Torrent Power Limited (TPL)	2 Nos. GTs i.e. 2x32.5 MW and 1 ST of 35 MW	1990. The Station got retired in 2014	Ahmedabad, Gujarat	2165 kCal/ kWh (Combined Cycle)	GERC Tariff Order dated 06.09.2011
3	Auraiya CCPP of NTPC	4Nos. GTs i.e. 4x110 MW and 2 ST of 2x106 MW	1990	Dist. Auraiya- Uttar Pradesh	2100 kCal/ kWh (Combined Cycle) and 3045 kCal/ kWH (Open Cycle)	CERC Tariff Regulations, 2014

(67) Further, the impact of allowing higher GHR in terms of Rs. Cr. is given below:

Sl. No.	Description	Unit	Value	Remarks
A	Approved Net Generation for FY 2013-14	MU	1006.79	DERC Tariff Order dated 29.09.2015
B	ECR with GHR as 2450 kCal/ kWh	Rs/ kWh	3.65	DERC Tariff Order dated 29.09.2015
C	ECR with GHR as 2500 kCal/ kWh	Rs/ kWh	3.72	Assumed
D	Difference in ECR for GHRs 2450 and 2500 kCal/ kWh	Rs/ kWh	0.07	C-B
E	Additional burden on Delhi Consumers by allowing GHR as 2500 instead of 2450 kCal/ kWh	Rs. Crore	6.96	(AxD)/10
F	ECR with GHR as 2400 kCal/ kWh	Rs/ kWh	3.57	Assumed
G	Difference in ECR for GHRs 2450 and 2400 kCal/ kWh	Rs/ kWh	-0.08	F-B
H	Reduction in burden on Delhi Consumers by allowing GHR as 2400 instead of 2450 kCal/ kWh	Rs. Crore	-7.93	(AxG)/10

(68) In view of the above stated factors like past performance, aging and operational

parameters for similar Generating Stations at similar terrain, the Commission has considered GHR of Auraiya approved by CERC for GTPS also for the next Control Period (FY 2017-18 to FY 2019-20).

Pragati Power Station I (PPS I)

(69) The Commission had specified GHR (Combined Cycle – 2000 kCal/ kWh and Open Cycle – 2900 kCal/ kWh) for PPS I in both 1st MYT Tariff Regulations and 2nd MYT Tariff Regulations. The actual GHR for PPS I in the past Control Periods is given below:

Control Period	Year	Combined Cycle GHR (kCal/ kWh)		Open Cycle GHR (kCal/ kWh)	
		Target	Actual	Target	Actual
1st MYT	FY 2007-08	2000	1973	2900	3130
	FY 2008-09	2000	1967	2900	3075
	FY 2009-10	2000	1984	2900	3084
	FY 2010-11	2000	2003	2900	3138
	FY 2011-12	2000	1988	2900	3095
2nd MYT	FY 2012-13	2000	1989	2900	3121
	FY 2013-14	2000	1990	2900	3161
	FY 2014-15	2000	2046	2900	3188
	FY 2015-16	2000	1988	2900	3095
	FY 2016-17	2000	1967	2900	3134

(70) Further, the Commission analyzed a few Generating Stations with similar Unit Size, Comparable Age and Location. A comparative statement is given below::

Sr. No.	Generating Station	Unit Size	Commissioning Year for first GT	Location	Allowed GHR	Remarks
1	Uran PPS-I of MSPGCL	4 Nos. GTs (4x108 MW) and 2 Nos. STs (2x120 MW)	1994	Uran, Raigad, Maharashtra	2025 kCal/ kWh (Combined Cycle)	MERC Tariff Order dated 03.03.2014

a) Further, the impact of allowing higher GHR in terms of Rs. Cr. is given below:

Sr. No.	Description	Unit	Value	Remarks
A	Approved Net Generation for FY 2013-14	MU	2359	DERC Tariff Order dated 29.09.2015
B	ECR with GHR as 2000 kCal/ kWh	Rs/ kWh	3.32	DERC Tariff Order dated 29.09.2015

Sr. No.	Description	Unit	Value	Remarks
C	ECR with GHR as 2050 kCal/ kWh	Rs/ kWh	3.40	Assumed
D	Difference in ECR for GHRs 2000 and 2050 kCal/ kWh	Rs/ kWh	0.08	C-B
E	Additional burden on Delhi Consumers by allowing GHR as 2050 instead of 2000 kCal/ kWh	Rs. Crore	18.70	(AxD)/10
F	ECR with GHR as 1950 kCal/ kWh	Rs/ kWh	3.24	Assumed
G	Difference in ECR for GHRs 2000 and 1950 kCal/ kWh	Rs/ kWh	-0.08	F-B
H	Reduction in burden on Delhi Consumers by allowing GHR as 1950 instead of 2000 kCal/ kWh	Rs. Crore	-19.81	(AxG)/10

(71) In view of the above stated factors like past performance, aging and operational parameters for similar Generating Stations at similar terrain, the Commission has considered continuing the existing norm w.r.t. GHR for PPS I (Combined Cycle-2000 kCal/ kWh & Open Cycle-2900 kCal/ kWh) for the next Control Period (FY 2017-18 to FY 2019-20).

11. AUXILIARY ENERGY CONSUMPTION

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

" Auxiliary Energy Consumption shall be computed in two parts:

*a) **Fixed:** 0.5% of the generation at normative PLF of the plant capacity which shall form part of other expenses under Fixed Cost, at energy charge rate approved by the Commission in respective Tariff Order.*

*b) **Variable:** 2.0% of the actual generation which shall form part of computation of energy charge rate of the respective month."*

EXPLANATORY NOTES

(72) In accordance with DERC Tariff Regulations, 2017, the Energy consumed by auxiliary equipment of the Generating Station, such as the equipment being used for the purpose of operating plant and machinery including switchyard of the Generating Station and the Transformer Losses within the Generating Station. The same is measured in terms of percentage.

(73) Energy Charge Rate (ECR) of a Generating Station is directly proportional to its Auxiliary

Energy Consumption. Thus lower Auxiliary Energy Consumption results in lower ECR.

(74) CERC has specified Auxiliary Energy Consumption (Combined Cycle – 2.5% and Open Cycle – 1%) for all Gas based Generating Stations without any exception.

Gas Turbine Power Station (GTPS)

(75) The Commission had specified Auxiliary Energy Consumption (Combined Cycle – 3% and Open Cycle – 1%) for GTPS in both its 1st MYT Generation Tariff Regulations and 2nd MYT Generation Tariff Regulations. The actual Auxiliary Energy Consumption for GTPS in the past Control Periods is given below:

Control Period	Year	Combined Cycle Auxiliary Energy Consumption (%)		Open Cycle Auxiliary Energy Consumption (%)	
		Target	Actual	Target	Actual
1st MYT	FY 2007-08	3	3.06	1	NA
	FY 2008-09	3	3.34	1	NA
	FY 2009-10	3	3.55	1	NA
	FY 2010-11	3	3.33	1	NA
	FY 2011-12	3	3.65	1	NA
2nd MYT	FY 2012-13	3	3.01	1	1
	FY 2013-14	3	3.28	1	1
	FY 2014-15	3	3.43	1	1
	FY 2015-16	3	4.65	1	1
	FY 2016-17	3	3.27	1	1

Note: NA stands for 'Not Available'

(76) GTPS Station has implemented Perform Achieve and Trade (PAT) Scheme, Demand Side Management (DSM) etc. and as a result should reduce its Auxiliary Energy Consumption.

(77) Further, the impact of allowing higher Auxiliary Energy Consumption in terms of Rs. Cr. is given below:

Sl. No.	Description	Unit	Value	Remarks
A	ECR with Aux. Cons. as 3% in CC mode	Rs/ kWh	3.65	DERC Tariff Order dated 29.09.2015
B	ECR with Aux. Cons. as 2.5% in CC mode	Rs/ kWh	3.63	Assumed
C	Difference in ECR	Rs/ kWh	-0.02	B-A
D	Approved Net Generation for FY 2013-14	MU	1006.79	DERC Tariff Order dated 29.09.2015

Sl. No.	Description	Unit	Value	Remarks
E	Reduction in burden on Delhi Consumers by allowing Aux. Cons. as 2.5% instead of 3% in CC mode	Rs. Crore	-2.36	(CxD)/10

Note: For most of the times, Generating Stations run in Combined Cycle mode and hardly run in Open Cycle mode. So above calculations are done only for Combined Cycle mode

(78) In view of the above, the Commission has considered the Auxiliary Energy Consumption of GTPS at Combined Cycle – 2.5% and Open Cycle – 1% for the next Control period (FY 2017-18 to FY 2019-20), in line with CERC Tariff Regulations, 2014.

Pragati Power Station I (PPS I)

(79) The Commission had specified Auxiliary Energy Consumption (Combined Cycle – 3% and Open Cycle – 1%) for PPS I in both its 1st MYT Generation Tariff Regulations and 2nd MYT Generation Tariff Regulations. The actual Auxiliary Energy Consumption for PPS I in the past Control Periods is given below:

Control Period	Year	Combined Cycle Auxiliary Energy Consumption (%)		Open Cycle Auxiliary Energy Consumption (%)	
		Target	Actual	Target	Actual
1st MYT	FY 2007-08	3	2.90	1	1
	FY 2008-09	3	2.88	1	1
	FY 2009-10	3	2.92	1	1
	FY 2010-11	3	2.90	1	1
	FY 2011-12	3	2.70	1	1
2nd MYT	FY 2012-13	3	2.65	1	1
	FY 2013-14	3	2.73	1	1
	FY 2014-15	3	2.60	1	1
	FY 2015-16	3	2.71	1	1
	FY 2016-17	3	2.66	1	1

(80) It can be seen from the above tables that PPS-I Station has achieved the level of 2.5% with respect to Auxiliary Energy Consumption in FY 2015-16.

(81) The impact of allowing higher Auxiliary Energy Consumption in terms of Rs. Cr. is given below:

Sl. No.	Description	Unit	Value	Remarks
A	ECR with Aux. Cons. as 3% in CC mode	Rs/ kWh	3.32	DERC Tariff Order dated 29.09.2015

Sl. No.	Description	Unit	Value	Remarks
B	ECR with Aux. Cons. as 2.50% in CC mode	Rs/ kWh	3.30	Assumed
C	Difference in ECR	Rs/ kWh	-0.02	B-A
D	Approved Net Generation for FY 2013-14	MU	2359	DERC Tariff Order dated 29.09.2015
E	Reduction in burden on Delhi Consumers by allowing Aux. Cons. as 2.5% instead of 3% in CC mode	Rs. Crore	-4.51	(CxD)/10

Note: For most of the times, Generating Stations run in Combined Cycle mode and hardly run in Open Cycle mode. So above calculations are done only for Combined Cycle mode

(82) In view of the above, the Commission has considered the total Auxiliary Energy Consumption of PPS I at Combined Cycle – 2.5% and Open Cycle – 1% for the next Control period (FY 2017-18 to FY 2019-20), in line with CERC Tariff Regulations, 2014.

(83) Further, it is observed that there are few auxiliaries of the Power Plant which require to operate even if the plant is not running like illumination, air-conditioning load etc. Therefore, it is proposed that Auxiliary Energy Consumption may be split as follows:

a) **Fixed:** 0.5% of the generation at normative PLF of the plant capacity which shall form part of other expenses under Fixed Cost, at energy charge rate approved by the Commission in respective Tariff Order.
b) **Variable:** 2.0% of the actual generation which shall form part of computation of energy charge rate of the respective month when the plant is running in Combined Cycle mode. The same shall be considered as 0.5% in Open Cycle mode.

12. NORMS OF OPERATION FOR TRANSMISSION BUSINESS

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

"

(1) Normative Annual Transmission System Availability Factor (NATAF) for recovery of Annual Fixed Charges for AC System shall be considered at 98%.

(2) Transmission System Availability shall be computed as per the formulae and methodology specified in Appendices-I, II and III of these Regulations."

EXPLANATORY NOTES

(84) The Commission has considered the methodology and formula for computation of Normative Annual Transmission System Availability Factor for the Transmission Licensee in line with the norms adopted by CERC in its Tariff Regulations 2014.

(85) The Transmission Licensee operating in the area of GoNCTD have plain area of operation in comparison to hilly/difficult terrain area of other Transmission Licensees Operating in various parts of the country whose availability is determined by CERC. Therefore, the Commission has considered fixed cost recovery at same level of 98% availability as fixed by CERC, however, for earning incentive by the Transmission Licensee, the Commission has provided stricter norms for availability (additional 0.5%) than that compared with CERC.

13. INCENTIVE SHARING MECHANISM FOR RE-FINANCING OF LOAN

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

"

(1) The incentive due to lower rate of interest on account of re-financing of loan in terms of the Regulation 71 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 from FY 2017-18 to FY 2019-20 of the Distribution Licensees shall be computed as the product of total quantum of loan availed and difference of margin approved in these Regulations compared to actual margin availed by the Distribution Licensees through re-financing of loan only.

(2) The incentive on account of re-financing of loan computed as per sub clause (1) above shall be shared equally between the Consumers and the Distribution Licensee. "

EXPLANATORY NOTES

(86) The Commission has provided incentive sharing mechanism for re-financing of loan as indicated in the Regulation 71 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017. The utilities have to make efforts for re-financing of loan which will result into reduction of interest cost to the consumers. Therefore, part of the benefit accrued due to re-financing of loan must be share with the utilities. However, the Commission has also safeguarded the interest of the consumers that any cost towards re-financing of loan shall not be passed into the ARR in-case the benefit due to re-financing of loan is lower than the cost of re-financing of loan.

(87) The incentive shall be computed as the product of total quantum of loan availed and difference of margin approved in these Regulations compared to actual margin availed by the utilities through re-financing of loan only. The incentive on account of such re-financing of loan computed shall be shared equally between the Consumers and the Utilities.

14. MECHANISM FOR RECOVERY OF POWER PURCHASE COST ADJUSTMENT CHARGES

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

"The mechanism for recovery of Power Purchase Cost Adjustment Charges (PPAC) in terms of the Regulation 134 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 from FY 2017-18 to FY 2019-20 of the Distribution Licensees shall be as follows:

(1) The Commission shall specify the detailed formula for computation of PPAC in the Tariff Order for the relevant year.

(2) The Distribution Licensee shall compute the PPAC for any quarter as per the specified formula for the relevant year:

Provided that a quarter refers to one-fourth of a year i.e., January, February and March (Q1); April, May and June (Q2); July, August and September (Q3); and October, November and December (Q4).

(3) The PPAC computation of any quarter shall be equally spread and adjusted over subsequent quarter only:

Provided that the Commission may allow to carry forward PPAC to more than one quarter in order to avoid the tariff shock for consumers in terms of Regulation 136 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017.

(4) The treatment of PPAC computation as per the specified formula shall be as follows:

(a) in case PPAC does not exceed 5% for any quarter, the Distribution Licensee may levy PPAC at 90% of computed PPAC with prior intimation to the commission without going through the regulatory proceedings.

(b) in case PPAC exceeds 5% for any quarter, the Distribution Licensee shall file an application for prior approval of the Commission with respect to their claim on account of PPAC.

(5) The Distribution Licensee shall upload the computation of PPAC on its website before the same is levied to the consumers' electricity bills."

EXPLANATORY NOTES

(88) As defined in the DERC Tariff Regulations 2017, the PPAC are allowed to recover the incremental Power Procurement Cost on quarterly basis due to variation in price of fuel for long term sources and variation in fixed cost on account of regulatory orders from long term sources and variation in transmission charge. The relevant extract of Tariff Regulations' 2017 is quoted as below:

"134 The Distribution Licensee shall be allowed to recover the incremental Power Procurement Cost on quarterly basis, over and above the Power Procurement Cost approved in the Tariff Order of the relevant year, incurred due to the following:

(a) Variation in Price of Fuel from long term sources of Generation;

(b) Variation in Fixed Cost on account of Regulatory Orders from long term sources of Generation;

(c) Variation in Transmission Charges.

135 The Commission shall specify the detailed formula and procedure for recovery of such incremental Power Procurement Cost as Power Purchase Cost Adjustment Charges (PPAC) formula in the Tariff Order;

136 To avoid the tariff shock for consumers, the Commission may carry forward PPAC of one quarter into more than one quarter on provisional basis;"

(89) Section 62 (4) of the Electricity Act, 2003 specifies that the Tariff may be revised more than once in any Financial Year in respect of variation in fuel prices as follows:

"(4) No tariff or part of any tariff may ordinarily be amended more frequently than once in any financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified. "

(90) The Hon'ble APTEL in its Judgment in OP No. 1 of 2011 dated 11/11/2011 had made mandatory for all SERCs to implement variation of Fuel and Power Purchase cost formula/mechanism. The relevant extract of the said judgment is as follows:

"(vi) Fuel and Power Purchase cost is a major expense of the distribution Company which is uncontrollable. Every State Commission must have in place a mechanism for Fuel and Power Purchase cost in terms of Section 62 (4) of the Act. The Fuel and Power Purchase cost adjustment should preferably be on monthly basis on the lines of the Central Commission's Regulations for the generating companies but in no case exceeding a quarter. Any State Commission which does not already have such formula/mechanism in place must within 6 months of the date of this order must put in place such formula/ mechanism"

(91) The Commission has analysed the methodology for PPAC of various State Commissions and it is observed that various State Electricity Commissions like Uttar Pradesh, Assam, Jharkhand and Tripura has adopted a policy of levy of PPAC based on :

a) Ceiling Limit : Ranging from 10% to 25%

b) Without going through the regulatory proceedings upto a ceiling limit

(92) In view of the above, the Commission has also specified the mechanism of levying PPAC by Distribution Licensee without going through the regulatory proceedings upto 5% as actual PPAC allowed by the Commission in recent past is also majorly in the same range. The Distribution Licensee shall upload the detailed calculations on its websites with a copy for information to the Commission.

(93) In case the PPAC computed is more than the ceiling limit of 5 %, then Distribution Licensee shall file an application before the Commission for prior approval of PPAC of the relevant quarter.

15. INCENTIVE SHARING MECHANISM FOR SALE RATE OF SURPLUS POWER

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

(1) The computation of incentive for Sale Rate of Surplus Power in terms of the Regulation 165 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 from FY 2017-18 to FY 2019-20 of the Distribution Licensees shall be as follows:

i. The variable cost of the generating station for which power is surplus and required to be sold through Power Exchanges shall be considered as the previous month's billed variable cost of such generating station.

ii. The variable cost of the generating station for which power is surplus and required to be sold through Banking and Bilateral shall be considered as the previous month's billed variable cost of such generating station prevalent at the date of entering into such contracts.

iii. The incentive shall be the product of Rate difference (Actual Sale Rate-Variable Cost) and Quantum of Power actually sold.

(2) The incentive computed under sub-clause (1) above shall be shared between the Consumers and the Distribution Licensees as follows:

i. The incentive realisation upto 100% recovery of Average Fixed Cost per unit of all Generating sources of relevant year, projected by the Commission in the relevant Tariff Order, prorated to actual sale of Surplus Power shall be shared in the ratio of 2/3rd to the Consumers and 1/3rd to the Distribution Licensees.

ii. The incentive realisation above 100% recovery of Average Fixed Cost per unit of all Generating sources of relevant year, projected by the Commission in the relevant Tariff Order, prorated to actual sale of Surplus Power shall be shared in the ratio of 1/3rd to the Consumers and 2/3rd to the Distribution Licensees."

EXPLANATORY NOTES

(94) The Commission has analysed the sale rate of Surplus Power realised by the Distribution Licensees from FY 2011-12 to FY 2014-15 as follows:

Sl. No.	Year	BRPL		BYPL		TPDDL		Wt. Avg. Rate (Rs./kWh)
		Energy Sold (MU)	Price Realised (Rs./kWh)	Energy Sold (MU)	Price Realised (Rs./kWh)	Energy Sold (MU)	Price Realised (Rs./kWh)	
1	FY 2011-	2393	3.23	1708	3.19	1680	2.94	3.13
2	FY 2012-	1867	3.31	2634	3.12	2535	2.91	3.07
3	FY 2013-	2123	2.80	1572	2.31	2721	3.08	2.80
4	FY 2014-	1057	3.22	1051	3.41	1578	3.42	3.36

(95) In order to promote optimisation of Power Purchase Cost related to better realisation towards Sale Rate of Surplus Power, the Commission has provided the mechanism for Incentive/Dis-incentive to the Distribution Licensees towards Sale of Surplus Power in the regulation 123 of the DERC Tariff Regulations, 2017. Due to dynamic pricing at Power Exchanges based on the demand -supply scenario prevailing at relevant slot, it is impossible to forecast the rate of sale of surplus in advance due to un-predictable nature of Power Exchange Rate.

(96) Therefore, the Commission has benchmarked Sale Rate of Surplus Power by considering next higher variable cost of the generating stations from which power is surplus and to be sold after meeting the demand in order to compute the Incentive/Dis-incentive to the Distribution Licensees.

(97) The relevant extract with illustration for computation and incentive sharing mechanism for sale rate of surplus power is provided in draft Business Plan Regulations, 2017 as follows:

" Illustration:-

a) Quantum of Sale of Surplus Power (A) = 1000 MU
b) Applicable Variable Cost per Unit (B) = Rs. 2.00/kWh
c) Actual Sale rate of Surplus Power (C) = Rs. 3.50/kWh
d) Incentive [D=A(C-B)] = Rs. 150 Cr.*
e) Approved Average Fixed Cost per unit in the Tariff Order (E)= Rs. 1.00/kWh

*Incentive realisation upto 100% recovery of Average Fixed Cost per unit = (E*A) = Rs. 100 Cr. shall be shared in the ratio of $2/3^{rd}$ (Rs. 67 Cr.) to the Consumers and $1/3^{rd}$ (Rs. 33 Cr.) to the Distribution Licensees.*

*Incentive realisation above 100% recovery of Average Fixed Cost per unit = [D-(E*A)] = Rs. 50 Cr. shall be shared in the ratio of $1/3^{rd}$ (Rs. 16.67 Cr.) to the Consumers and $2/3^{rd}$*

(Rs. 33.33 Cr.) to the Distribution Licensees.
Therefore,

i. *Total incentive to the Distribution Licensees = Rs. 66.33 Cr. (33+33.33)*
ii. *Total incentive to the Consumers = Rs. 83.67 Cr. (67+16.67)"*

16. CONTINGENCY LIMIT FOR SALE OF POWER THROUGH DEVIATION SETTLEMENT MECHANISM (UNSCHEDULED INTERCHANGE CHARGES)

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

"

(1) The Contingency Limit for Sale of Power through Deviation Settlement Mechanism in terms of the Regulation 152 (c) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 from FY 2017-18 to FY 2019-20 of the Distribution Licensees shall be 5% of Gross Power Procured by the Distribution Licensee for the relevant month.

(2) In case the Distribution Licensee sell power in Deviation Settlement Mechanism (Unscheduled Interchange Charges) more than 5% of Gross Power procured by the Distribution Licensee for the relevant month such sale rate shall be restricted to the average rate of power purchase/sale through exchange during same month for Delhi region."

EXPLANATORY NOTES

(98) It was brought to the notice of the Commission by the stakeholders that sale under UI is dependent on the efforts of Distribution licensee to forecast the demand in a scientific manner and margin of error may be minimised.

(99) The Commission has also observed from the Press Information Bureau Government of India Ministry of Earth Science dtd. 05/09/2012 that level of operational acceptability of **error of margin is 5%** for the forecasts of all India seasonal monsoon rainfall. The relevant extract is as follows:

" India Meteorological Department (IMD) has been issuing forecast for the arrival of the monsoon (onset over Kerala) successfully since 2005 with an error of ± 4 days. The operational forecasts issued during all the last three years (2010 to 2012) are presented below:

.....

Monsoon projections of IMD for the last three years and for current Monsoon2012 so far are presented in Annexure. The present level of operational acceptability of error *margin is of 5% for the forecasts of all India seasonal monsoon rainfall. The forecast verification of last 3years suggests that only during 2009 the error margin was higher than 5% due to persistence of warmer sea surface temperature anomaly over equatorial Pacific Ocean (El Nino) beyond the expected duration as envisaged at the time (April 2009) of finalizing Monsoon2009 seasonal rainfall forecast."*

(100) Therefore, the Contingency Limit for Sale of Power through Deviation Settlement Mechanism in terms of the Regulation 152 (c) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 from FY 2017-18 to FY 2019-20 of the Distribution Licensees has been considered as 5% as an error in predicting monsoon by India Meteorological Department indicated above.

(101) In case the Distribution Licensee sell power in Deviation Settlement Mechanism (Unscheduled Interchange Charges) more than 5% of Gross Power procured by the Distribution Licensee for the relevant month such sale rate shall be restricted to the average rate of power purchase/sale through exchange during same month for Delhi region.

17. TARGET FOR RENEWABLE PURCHASE OBLIGATION

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

"

(1) The targets for Renewable Purchase Obligation (RPO) in terms of the Regulation 124 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for the Distribution Licensee from FY 2017-18 to FY 2019-20 of the Distribution Licensees shall be computed as a percentage of total sales to retail consumers in its area of supply excluding procurement of hydro power as follows:

Table 1: Targets for Renewable Purchase Obligation

Sr. No.	*Distribution Licensee*	*2017-18*	*2018-19*	*2019-20*
1	*Solar Target (Minimum)*	*2.75%*	*4.75%*	*6.75%*
2	*Total*	*11.50%*	*14.25%*	*17.00%*

"

EXPLANATORY NOTES

(102) The Electricity Act, 2003 entrusts on the appropriate Commission the responsibility of promotion of co-generation and generation based on renewable energy sources. The policy framework of the Government of India also stresses on the encouragement of renewable energy sources keeping in view the need for energy security of the country. Relevant provisions of the Act are reproduced as below:

Section 86(1)(e):

86. Functions of State Commission

(1) The State Commission shall discharge the following functions, namely:-

(e) promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;

(103) Further, Government of India notified the revised Tariff Policy which was published vide Gazette of India, dated 28.01.2016 and Para 6.4 (1) of the policy provides that pursuant to provisions of section 86(1)(e) of the Act, the Appropriate Commission shall fix a minimum percentage of the total consumption of electricity in the area of a distribution licensee for purchase of energy from renewable energy sources, taking into account availability of such resources and its impact on retail tariffs. It also provides that within the percentage so made applicable, to start with, the SERCs shall also reserve a minimum percentage for purchase of solar energy from the date of notification of the policy which shall be such that it reaches 8% of total consumption of energy, excluding hydro power, by March 2022 or as notified by the Central Government from time to time.

(104) Ministry of Power, Govt. of India in consultation with MNRE, vide order dated 22.07.2016 notified the long term growth trajectory of Renewable Power Purchase Obligations (as given below) for Non-Solar and Solar, uniformly for all States / Union Territories initially for three years from 2016-17 to 2018-19, in order to achieve the target of 175 GW renewable capacity by March 2022.

Long term Trajectory	FY 2016-17	FY 2017-18	FY 2018-19
Non Solar	8.75%	9.50%	10.25%
Solar	2.75%	4.75%	6.75%
Total	11.50%	14.25%	17.00%

(105) Since the earlier trajectory for RPO under the Delhi Electricity Regulatory Commission (Renewable Purchase Obligation and Renewable Energy Certificate Framework Implementation) Regulations, 2012 ended on 31 March, 2017, the Commission proposes to specify the RPO targets for the MYT Control Period from FY 2017-18 to FY 2019-20 by taking reference from the trajectory issued by Ministry of power, Govt. of India.

(106) Further, the Commission has also considered the relevant provision of RPO form the Tariff Policy dtd. 28/01/2016 as follows:

"6.4 Renewable sources of energy generation including Co-generation from renewable energy sources:

(1) Pursuant to provisions of section 86(1)(e) of the Act, the Appropriate Commission shall fix a minimum percentage of the total consumption of electricity in the area of a distribution licensee for purchase of energy from renewable energy sources, taking into account availability of such resources and its impact on retail tariffs. Cost of purchase of renewable energy shall be taken into account while determining tariff by SERCs. Long term growth trajectory of Renewable Purchase Obligations (RPOs) will be prescribed by the Ministry of Power in consultation with MNRE."

(107) In view of the above provisions of the Tariff Policy and Order of Ministry of New and Renewable Energy (MNRE), the Commission has proposed the target for FY 2017-18 to FY 2019-20 for Delhi Distribution Licensees.

18. TARGET FOR COLLECTION EFFICIENCY

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

"

(1) The targets for Collection Efficiency for FY2017-18 to FY2019-20 of the Distribution Licensees shall be 99.50%.

(2) The financial impact on account of Collection Efficiency target shall be computed as per the formula specified in the Regulation 163 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for the Distribution Licensee.

(3) The financial impact on account of over-achievement in terms of in the Regulation 164 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for the Distribution Licensee, from 99.50% to 100% shall be shared equally between Consumers and the Distribution Licensees."

EXPLANATORY NOTES

(108) The Commission has set the target for the Collection Efficiency as 99.50% which has been considered by the Commission since FY 2012-13 onwards as approved in the 2nd MYT Order dtd. 13/07/2012.

(109) The target for the Collection Efficiency cannot be fixed at 100.00% as there should always be scope for bad debts. Further, the Commission has safeguarded the consumers' interests by providing incentive mechanism for overachievement of Collection Efficiency from 99.50% to 100.00% to be shared equally between the

consumers and Distribution Licensees.

(110) It is also pertinent to state that any overachievement of the Collection Efficiency above 100% should be passed to the Licensee's account as reason for over achievement above 100% in any financial year is due to under achievement in previous financial years for which the Distribution Licensee has been already penalised.

19. TARGET FOR DISTRIBUTION LOSS

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

"

(1) The Distribution Loss target in terms of Regulation 4(9)(a) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for the Distribution licensees shall be as follows:

Table 2: Target for Distribution Loss for the Control Period

Sr. No.	Distribution Licensee	2017-18	2018-19	2019-20
1	BSES Rajdhani Power Limited	10.93%	10.19%	9.50%
2	BSES Yamuna Power Limited	13.00%	11.69%	10.50%
3	Tata Power Delhi Distribution Limited	8.38%	8.19%	8.00%
4	New Delhi Municipal Council	10.30%	9.63%	9.00%

(2) The amount for Overachievement/Underachievement on account of Distribution Loss target shall be computed as per the formula specified in the Regulation 159 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for the Distribution Licensee.

(3) The amount computed for Underachievement on account of Distribution Loss target by the distribution licensee for the relevant year shall be on account of distribution licensee as specified in the Regulation 161 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017.

(4) The amount computed for Overachievement on account of Distribution Loss target by the distribution licensee for the relevant year shall be shared between the Distribution Licensee and Consumers as follows:

i. in case actual Distribution Loss is between the loss target and loss target minus [50%(Previous Year Target-Current Year Target)] for the relevant year shall be shared in the ratio of 2/3rd to Consumers and 1/3rd to the Distribution Licensee;*

ii. in case actual Distribution Loss is less than loss target minus [50%(Previous Year Target-Current Year Target)] for the relevant year shall be shared in the ratio of 1/3rd to Consumers and 2/3rd to the Distribution Licensee."*

EXPLANATORY NOTES

(111) The Commission has analyzed the past performance of the distribution licensees on account of AT&C loss target vis-à-vis actual performance since unbundling. It is

observed that there are two components of AT&C loss i.e., Technical Loss and Commercial Loss.

(112) Every element in a power system (a line or a transformer, etc.) offers resistance to power flow and thus consumes some energy while performing the duty expected of it. The cumulative energy consumed by all these elements is classified as **"Technical Loss".**

(113) Losses that occur on account of non-performing and under-performing meters, wrong application of multiplying factors, defects in CT and PT circuitry, meters not read, pilferage by manipulating or by-passing of meters, theft by direct tapping, etc., correspond to energy consumed but not metered or billed and are hence, categorized as "**Commercial Loss**".

(114) It is also observed from the data submitted by DISCOMs on monthly basis to the Commission that there are few divisions in every Distribution Licensee's area, where distribution loss level is above the acceptable limit. The following table depicts various divisions where the distribution loss levels are on the higher side:

March 2016 TPDDL

Name of Division	Energy Input (MU)	Energy Billed (MU)	Distribution Losses (%)
Bawana	88.00	78.56	10.73%
Mangolpuri	46.58	38.51	17.33%
Model Town	28.52	24.86	12.86%
Rohini	52.76	46.03	12.75%
Shakti Nagar	22.61	19.81	12.39%

March 2016 BYPL

Name of Division	Energy Input (MU)	Energy Billed (MU)	Distribution Losses (%)
Chandni Chowk	16.48	12.49	24.21%
Darya Ganj	42.68	31.17	26.97%
Pahar Ganj	23.25	18.38	20.97%
Yamuna Vihar	39.23	28.14	28.26%
Karawal Nagar	38.98	29.63	23.99%

March 2016 BRPL

Name of Division	Energy Input (MU)	Energy Billed (MU)	Distribution Losses (%)
Najafgarh	32.46	18.97	41.55%
Jaffarpur	12.80	5.30	58.58%
Mundka	26.64	20.70	22.31%
Tagore Garden	38.84	31.61	18.61%
Sarita Vihar	62.82	54.11	13.86%

(115) The Delhi DISCOMs have submitted the actual distribution loss levels in their True up Petitions for FY 2015-16 is as follows:

Actual distribution loss levels for FY 2015-16

Name of the DISCOM	Target	Achievement
BRPL	11.23%	12.57%
BYPL	12.90%	16.07%
TPDDL	10.56%	8.78%

(116) The Ministry of Power (MOP), Govt. of India vide its memorandum dated 13/04/2017 has finalized the AT & C trajectory for all the distribution licensees across the country up to FY 2019-20., the AT&C loss trajectory submitted by Delhi Distribution Licensee in the said memorandum is as follows:

AT & C Loss trajectory as per Delhi Distribution Licensee by MOP, GOI

Name of the DISCOM	FY 2017-18	FY 2018-19	FY 2019-20
BRPL	12.40%	12.30%	12.00%
BYPL	14.70%	14.35%	14.00%
TPDDL	9.75%	9.75%	9.75%

(117) The comparative statement of target and achievement of distribution loss levels for previous MYT period is as follows:

Distribution loss levels for previous MYT period

Name of the DISCOM	2012-13		2013-14		2014-15		2015-16	
	Target	Achievement	Target	Achievement	Target	Achievement *	Target	Achievement *
BRPL	13.73%	16.43%	12.89%	16.14%	12.06%	14.73%	11.23%	12.57%
BYPL	16.40%	20.26%	15.24%	20.96%	14.07%	19.54%	12.90%	16.07%
TPDDL	12.06%	10.23%	11.56%	10.63%	11.06%	9.58%	10.56%	8.78%

* As per True up Petition submitted by Utilities

(118) It is pertinent to state that some of the State Electricity Regulatory Commissions have revised the targets at the end of the control period by considering the actual achievement of distribution loss levels and various other parameters of the previous control period.

(119) For instance the Bihar Electricity Regulatory Commission (BERC) in its Tariff Order dated 24/03/2017 for determination of Tariff for FY 2017-18 has revised the distribution loss trajectory for 2nd control period for FY 2017-19 which was approved in its earlier Order dated 21/03/2016. The relevant extract of the said Order is as follows:

"The Commission had approved a Distribution Loss trajectory for the second control

period FY 2016-17 to 2018-19 vide its order dated 21.03.2016 as below :

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
Distribution Loss	19.25 %	18.25 %	17.00 %

……………………

Accordingly, the revised Distribution loss trajectory approved by the commission is as given in the table below:

Table 6.54: Revised Distribution Loss Trajectory approved by the commission

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Distribution Loss	30 %	22 %	15 %

"

(120) Similarly, Maharashtra Electricity Regulatory Commission (MERC) in its Order dated 03/11/2016 for Multi Year Tariff for 3rd control period for FY 2016-17 to FY 2019-20 for Maharashtra State Electricity Distribution Company Ltd. (MSEDCL) has restated the distribution loss target for the base year as 18.24% as against its target of 13.50% approved earlier. The relevant extract of the said Order is as follows:

" Table 5-16: Distribution Loss trajectory approved by the Commission for 3rd Control Period

Particulars	FY 2015-16 Base year	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
Distribution Loss (including EHV sales)	18.24%				
Distribution Loss (excluding EHV sales)	19.26%	17.76%	16.26%	14.76%	13.26%

Table 4-9: Distribution Loss for FY 2015-16 as approved by the Commission

Particulars	Previous MYT Order	MSEDCL	Approved in this Order
Distribution Loss	13.50%	14.51%	18.24%

"

(121) In view of above, the Commission has analysed the past performance of the Distribution licensees and fixed the target for distribution loss considering:

i. The actual distribution loss levels till FY 2015-16 (As the audited FY 2016-17 data has not been submitted)

ii. Ujwal DISCOM Assurance Yojana (UDAY) Targets, MOP, Govt. of India memorandum dated 13/04/2017 : The pro-rated distribution loss calculated (considering 99.50% as collection efficiency) is as follows:

Name of the DISCOM	FY 2017-18		FY 2018-19		FY 2019-20	
	AT&C Loss	Distribution Loss	AT&C Loss	Distribution Loss	AT&C Loss	Distribution Loss
BRPL	12.40%	11.96%	12.30%	11.86%	12.00%	11.56%
BYPL	14.70%	14.27%	14.35%	13.92%	14.00%	13.97%
TPDDL	9.75%	9.30%	9.75%	9.30%	9.75%	9.30%

(122) In view of the above, the Commission by considering the actual past performance upto FY2015-16 and targets indicated in Ministry of Power, Government of India memorandum dated 13/04/2017 has judiciously fixed the end target of Distribution Loss for the Control Period for BRPL as 9.50%, BYPL as 10.50%, TPDDL as 8.00% and NDMC as 9.00%. Yearly reduction percentages for each DISCOM has been fixed on the basis of equal percentage reduction for each year from the target/actual of the previous years.

(123) The relevant extract with illustration for computation and incentive sharing mechanism for Over/Under-achievement of Distribution loss target is provided in Business Plan Regulations, 2017 as follows:

"TARGET FOR DISTRIBUTION LOSS

(5) The Distribution Loss target in terms of Regulation 4(9)(a) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for the Distribution licensees shall be as follows:

Table 3: Target for Distribution Loss for the Control Period

Sr. No.	***Distribution Licensee***	***2017-18***	***2018-19***	***2019-20***
1	*BSES Rajdhani Power Limited*	*10.93%*	*10.19%*	*9.50%*
2	*BSES Yamuna Power Limited*	*13.00%*	*11.69%*	*10.50%*
3	*Tata Power Delhi Distribution Limited*	*8.38%*	*8.19%*	*8.00%*
4	*New Delhi Municipal Council*	*10.30%*	*9.63%*	*9.00%*

(6) The amount for Overachievement/Underachievement on account of Distribution Loss target shall be computed as per the formula specified in the Regulation 159 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 for the Distribution Licensee.

(7) The amount computed for Underachievement on account of Distribution Loss target by the distribution licensee for the relevant year shall be on account of distribution licensee as specified in the Regulation 161 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017.

(8) The amount computed for Overachievement on account of Distribution Loss target by the distribution licensee for the relevant year shall be shared between the Distribution

Licensee and Consumers as follows:

iii. *in case actual Distribution Loss is between the loss target and loss target minus [50%*(Previous Year Target-Current Year Target)] for the relevant year shall be shared in the ratio of 2/3rd to Consumers and 1/3rd to the Distribution Licensee;*

iv. *in case actual Distribution Loss is less than loss target minus [50%*(Previous Year Target-Current Year Target)] for the relevant year shall be shared in the ratio of 1/3rd to Consumers and 2/3rd to the Distribution Licensee.*

Illustration.-

a) *Sales (A) = 1000 MU*
b) *Previous Year Distribution Loss Target (B) = 12%*
c) *Current Year Distribution Loss Target (C) = 10%*
d) *Power Purchase allowed by the Commission in Tariff Order [D=A/(1-C)] = 1111 MU*
e) *Trued up Power Purchase Rate (E)= Rs. 5.00/kWh*

CASE 1 *[Actual Loss> Loss Target]*

a) *Actual Distribution Loss (F) = 12%*
b) *Actual Power Purchase done by the Distribution Licensee [G=A/(1-F)] = 1136 MU*
c) *The Distribution Licensee has under-achieved the Distribution Loss target from 10% to 12% resulting into procurement of additional 25 MU (G-D).*
d) *100% Loss to Distribution Licensee = (25*5)/10 = Rs. 12.50 Cr.*

CASE 2 *[Loss Target>Actual>[Loss Target -50%*(Previous Year Target-Current Year Target)]*

a) *Actual Distribution Loss (F) = 9%*
b) *Actual Power Purchase done by the Distribution Licensee [G=A/(1-F)] = 1099 MU*
c) *The Distribution Licensee has Over-achieved the Distribution Loss target from 10% to 9% resulting into lesser procurement of additional 12 MU (G-D).*
d) *1/3rd of Incentive to Distribution Licensee = (12*5)/10*(1/3) = Rs. 2 Cr.*
e) *2/3rd of Incentive to Consumers = (12*5)/10*(2/3) = Rs. 4 Cr.*

CASE 3 *[Actual<[Loss Target -50%*(Previous Year Target-Current Year Target)]*

f) *Actual Distribution Loss (F) = 8%*
g) *Actual Power Purchase done by the Distribution Licensee [G=A/(1-F)] = 1087 MU*

Incentive up to overachievement of loss target minus [50%*(Previous Year Target-Current Year Target)]

*2/3rd of Incentive to Consumers = [(1111-1099)*5)/10]*2/3 = Rs. 4 Cr. ------- (i)*
*Balance 1/3rd to Distribution Licensee = [(1111-1099)*5)/10]*1/3 = Rs. 2 Cr.—(ii)*

Incentive for overachievement less than loss target minus [50%*(Previous Year Target-Current Year Target)]

*1/3rd of Incentive to Consumers = [(1099-1087)*5)/10]*1/3 = Rs. 2 Cr. ---------- (iii)*
*Balance 2/3rd to Distribution Licensee = [(1099-1087)*5)/10]*2/3 = Rs. 4 Cr. ---(iv)*
Total incentive to Consumers (i) + (iii) = Rs. 6 Cr.

Total incentive to Distribution Licensee (ii) + (iv) = Rs. 6 Cr."

20. RATIO OF ALLOCATION OF ARR INTO WHEELING & RETAIL SUPPLY

PROVISIONS IN DRAFT DERC BUSINESS PLAN REGULATIONS, 2017

"The ratio of allocation of ARR into Wheeling & Retail Supply Business in terms of the Regulation 4(9)(e) of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017 shall be as follows:

Table 21: Retail Business

Particulars	*BRPL*	*TPDDL*	*BYPL*
Cost of Power Purchase	*100%*	*100%*	*100%*
Inter-State Transmission charges	*100%*	*100%*	*100%*
Intra-state Transmission charges	*100%*	*100%*	*100%*
SLDC fees and charges	*100%*	*100%*	*100%*
Operation & Maintenance Costs	*40%*	*38%*	*38%*
Depreciation (including AAD)	*21%*	*23%*	*19%*
Return on Capital Employed	*26%*	*28%*	*28%*
Income Tax	*26%*	*28%*	*28%*
Non Tariff Income	*85%*	*60%*	*85%*

Table 22: Wheeling Business

Particulars	*BRPL*	*TPDDL*	*BYPL*
Operation & Maintenance Costs	*60%*	*62%*	*62%*
Depreciation (including AAD)	*79%*	*77%*	*81%*
Return on Capital Employed	*74%*	*72%*	*72%*
Income Tax	*74%*	*72%*	*72%*
Non Tariff Income	*15%*	*40%*	*15%*

"

EXPLANATORY NOTES

(124) The Commission has observed that TPDDL has suggested to retain the ratio of allocation of ARR into wheeling & retail supply as provided in the 2nd MYT Order dtd. 13/07/2012 and other utilities have not provided complete information in this regard. Therefore, on account of non-availability of actual data for ratio of allocation of ARR into wheeling & retail supply, the Commission has decided to retain the same ratio as approved in the 2nd MYT Order dtd. 13/07/2012 for the Distribution Licensees.