

A. INTRODUCTION

- 1.1 BSES Yamuna Power Limited (BYPL), the Distribution Licensee, has filed its Petition for Approval of True up of FY 2019-20 and Aggregate Revenue Requirement (ARR) for FY 2021-22.
- 1.2 The Executive Summary contains the summary of the Petition filed by BYPL for True up of FY 2019-20 (based on Audited Accounts), and ARR and Tariff for FY 2021-22.
- 1.3 The True up for FY 2019-20 shall be done based on the provisions of *DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017* and *DERC (Business Plan) Regulations, 2017*.
- 1.4 ARR and Tariff for FY 2021-22 shall be determined based on the provisions of *DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017* and *DERC (Business Plan) Regulations, 2019*. ARR broadly has the following components:
- a) Power Purchase Cost including Transmission Charges
 - b) Operation and Maintenance (O&M) expenses
 - c) Return on Capital Employed
 - d) Depreciation
 - e) Income Tax
 - f) Non-tariff Income, etc.
- 1.5 The following tables/ figures have been extracted from the Petitions filed by BYPL for ease of understanding to various stakeholders. Complete Petition is also available on DERC website <http://www.derc.gov.in/>

B. TRUE UP FOR FY 2019-20

- 1.6 BYPL has submitted its Energy Sales for FY 2019-20 as follows:

Table 1: Sales for FY 2019-20

Sr. No.	Category	Sales (MU)
A	Domestic	4057
B	Non Domestic	1737
C	Industrial	373
D	Agriculture	0.22
E	Public Utilities	392
F	Advertisement and Hoardings	0.04
G	Temporary Supply	52
H	Charging Station for E-Vehicle	16
I	Others*	30
Total		6658

*Includes Enforcement, Self-consumption, net metering connections etc.

1.7 BYPL has requested the Commission to approve the actual sales as 6658 MU and amount collected as Rs. 4818 Cr. (excluding 8% Surcharge, 3.80% Pension Surcharge, LPSC, Electricity Tax and Net Metering).

1.8 BYPL has submitted the actual AT&C loss of 8.65% and Distribution Loss of 7.30% for FY 2019-20. BYPL has claimed the following incentive with respect to actual Distribution Loss and Collection Efficiency achieved during FY 2019-20:

Table 2: Financial Impact of overachievement in Distribution Loss Target for FY 2019-20

Sr. No.	Particulars	UOM	FY 2019-20
A	Energy Purchased at BYPL periphery	MU	7178.63
B	Distribution Loss target for Previous Year i.e. FY 2018-19	%	11.69%
C	Distribution Loss target for Current Year i.e. FY 2019-20	%	10.50%
D	Loss target – 50%*(Previous Year Target – Current Year Target)	%	9.91%
E	Actual Distribution Loss for FY 2019-20	%	7.30%
F	Average Power Purchase cost for FY 2019-20	Rs./Kwh	5.13
G	Total Financial Impact on account of overachievement of Distribution Loss Target	Rs. Cr.	117.82
H	Impact of Financial benefit to be retained by BYPL	Rs. Cr.	71.24
I	Impact of Financial benefit to be passed on to the consumer	Rs. Cr.	46.58

Table 3: Financial Impact of Overachievement of Collection efficiency Target for FY 2019-20

Sr. No.	Particulars	UoM	FY 2019-20
A	Amount Billed	Rs. Cr.	4,888.89
B	Amount Collected	Rs. Cr.	4,817.81
C	Actual Collection Efficiency	%	98.55%
D	Collection efficiency Prayed to be considered (impact of Force Majeure event)	%	100.47%
E	Collection Efficiency Target	%	99.50%
F	Total Financial Impact (Incentive) on account of overachievement of Collection efficiency Target	Rs. Cr.	47.42
G	Incentive Petitioner Share	Rs. Cr.	35.20
H	Incentive Consumers Share	Rs. Cr.	12.22

Table 4: AT&C Losses for FY 2019-20 (%)

Sr. No.	Particulars	Actual performance
A	Distribution Losses	7.30%
B	Collection Efficiency	98.55%
C	AT&C Loss level	8.65%

- 1.9 BYPL submits that they purchases almost 70% of the power from generating companies owned and/ or fully controlled by the Central Government and State Government by virtue of Long Term Power Purchase Agreements which have been inherited from DTL (initially signed by M/s DTL) and assigned by the Commission to BYPL as per its Order dated 31/03/2007.
- 1.10 The summary of actual Power Purchase Quantum and Cost claimed during FY 2019-20 is as follows:

Table 5: Power Purchase Quantum for FY 2019-20

Sr. No.	Particulars	Energy (MU)
A	Power Purchase:	
I	Gross Power Purchase Quantum	8938
ii	Power sold to other sources	1502
iii	Net Power Purchase	7435
B	Transmission Loss:	
I	Total transmission loss (Inter State & Intra State)	257
C	Net power available after Transmission Loss*	7179

*Net of 'net metering'

Table 6: Power Purchase Cost for FY 2019-20

Sr. No.	Particulars	Amount (Rs. Cr.)
A	Power Purchase Cost	
i	Gross Power Purchase Cost	3587.58
ii	Power sold to other sources	522.26
iii	Net Power Purchase Cost (i-ii)	3065.32
B	Transmission Charges	
i	Inter-state transmission charges	446.62
ii	Intra-state transmission charges	111.22
iii	Other Transmission charges/OA Charges	66.59
iv	Total Transmission charges (i+ii+iii)	624.43
C	Rebate	
i	Power Purchase Rebate	7.27
ii	Rebate on Transmission Charges	-
iii	Total rebate (i+ii)	7.27
D	Add: Net Metering	1.77
	Add: Self Generation (BYPL Roof Top Solar)	0.14
E	Net Power Purchase Cost including Transmission charges net of rebate	3684.39
F	Incentive on short term Sale	1.51
G	Total Power Purchase including incentive	3685.39

1.11 The O&M expenses as considered by BYPL during FY 2019-20 are tabulated as follows:

Table 7: O&M expenses for FY 2019-20

Network	UoM	Network Capacity as on 31/03/2020	Amount (Rs. Cr.)
66 kV Line	ckt km	225	11.1
33 kV Line	ckt km	394	19.4
11kV Line	ckt km	2953	61.2
LT Line system	ckt km	5560	514.1
66/11 kV Grid S/s	MVA	1765	20.6
33/11 kV Grid S/s	MVA	2056	24.0
11/0.415 kV DT	MVA	3455	88.5
Total O&M Expenses			738.8

1.12 BYPL has claimed the following additional O&M expenses for FY 2019-20 summarized as follows:

Table 8: Additional O&M Expenses for FY 2019-20

Sr. No.	Particulars	Amount (Rs. Cr.)
A	Arrears paid on account of 7 th Pay Commission revision	62.7
B	Impact of Revision in Minimum Wages	31.0
C	GST Charges	23.5
D	Legal Expenses	19.1
E	Loss on Sale of Retired Assets	17.7
F	Property Tax	1.2
G	Water Charges	0.2
H	SMS Charges & Short Code	0.5
I	Ombudsman Fees	0.1
J	DSM Charges	0.8
	Total	156.7

1.13 The average rate of Depreciation for FY 2019-20 as submitted by BYPL based on the Audited Accounts is as follows:

Table 9: Computation of avg. rate of Depreciation for FY 2019-20

Sr. No.	Particulars	Amount (Rs. Cr.)
A	Opening GFA as per audited accounts	3714.15
B	Closing GFA as per audited accounts	3920.57
C	Average of GFA	3817.36
D	Depreciation as per Audited Accounts	193.58
E	Average depreciation rate (%)	5.07%

Table 10: Depreciation for FY 2019-20

Sr. No.	Particulars	Amount (Rs. Cr.)
A	Average GFA	3846.77
B	Average Consumer Contribution and Grants	314.34
C	Average GFA net of consumer contribution & Grants	3532.42
D	Average rate of depreciation (%)	5.07%
E	Depreciation	179.13

- 1.14 BYPL has considered the blended rate of interest of loans during 2019-20 as 13.06% and RoE at 16% (post tax) for computation of WACC as follows:

Table 11: Weighted Average Cost of Capital (WACC)

Sr. No	Particulars	Amount (Rs. Cr.)
A	Average Equity	1207.11
B	Average Debt	1379.22
C	Return on Equity	16.00%
D	Income Tax Rate (%)	17.47%
E	Grossed up Return on Equity	19.39%
F	Rate of Interest	13.06%
G	Weighted average cost of Capital (%)	16.01%

- 1.15 The Return on Capital Employed (RoCE) for FY 2019-20 is thus computed as follows:

Table 12: RoCE for FY 2019-20

Sr. No.	Particulars	Amount (Rs. Cr.)
A	Weighted Average Cost of Capital (WACC) (%)	16.01%
B	RRB (i)	2609.62
C	RoCE	417.91

- 1.16 BYPL has submitted the Non-tariff Income for FY 2019-20 as follows:

Table 13: Non-Tariff Income for FY 2019-20

Sr. No.	Particulars	Amount (Rs. Cr.)
A	Other Operating Income	69.08
B	Other Income	33.19
I	Total Income as per Accounts	102.27
C	Add: Interest on CSD	27.42
D	Add: Differential in SLD	(2.54)
II	Total Other Income	127.15
	Less: Income from other business	

Sr. No.	Particulars	Amount (Rs. Cr.)
E	Street Light Maintenance Charges	2.61
III	Net Income to be considered	124.54
F	Less: LPSC	16.55
G	Less: Short term gain	9.04
H	Less: Transfer from Consumer contribution for capital works	17.53
I	Less: Bad debts recovered	2.10
J	Less: Commission on collection of Electricity Duty	5.90
	Net Non-Tariff Income	73.42

1.17 The summary of total income received from other business and proposed to be retained by BYPL is tabulated below:

Table 14: Other Business Income during FY 2019-20

Sr. No.	Particulars	Total Income (Rs. Cr.)	Petitioner's Share (Rs. Cr.)	Consumer's Share (Rs. Cr.)
A	Pole Rental Income	3.72	1.49	2.23
B	Total	3.72	1.49	2.23

1.18 In addition to the income received from Other Business, the income of Rs. 11.31 Cr. (Note 33 of the Audited Accounts) recovered as Open Access Charges during FY 2019-20 has been considered for offsetting the revenue (gap)/surplus for the year.

1.19 Based on the above submissions, the Aggregate Revenue Requirement for FY 2019-20 sought by BYPL for True-up is as follows:

Table 15: Aggregate Revenue Requirement during FY 2019-20

Sr. No.	Particulars	Amount (Rs. Cr.)
A	Purchase of power including Transmission and SLDC Charges & Incentives	3684.39
B	O&M Expenses	738.79
C	Additional O&M Expenses	156.67
D	Depreciation	179.13
E	Return on Capital Employed (RoCE)	417.91
F	Sub-Total	5176.88
G	Less: Non-Tariff Income	73.42
H	Less: Income from other business	1.49
I	Less: Income from Open Access	11.31
J	Aggregate Revenue Requirement	5090.66

1.20 BYPL has claimed the Revenue available towards ARR and Revenue gap during FY 2019-20 as follows:

Table 16: Revenue for FY 2019-20

Sr. No.	Particulars	Amount (Rs. Cr.)
A	Total Revenue Collected	4817.81
B	Less: Amount to be retained by BYPL on account of overachievement of Distribution Loss Targets	71.28
C	Less: Amount to be retained by BYPL on account of Overachievement of Collection Efficiency Targets	35.20
D	Less: Incentive on Sale of Surplus power	1.51
E	Less: Carrying Cost	228.00
F	Revenue available towards ARR	4481.83

Table 17: Revenue (Gap) for FY 2019-20

Sr. No.	Particulars	Amount (Rs. Cr.)
A	Aggregate Revenue Requirement (ARR)	5090.66
B	Revenue available towards ARR	4481.83
C	Revenue (Gap)/Surplus	(608.83)

TRUING-UP OF PAST PERIOD UP TO FY 2019-20

1.21 BYPL's claims pertaining to true-up of expenses with respect to earlier periods are as follows:

Table 18: Summary of Past claims (Rs. Cr.)

Sr. No.	Particulars	Principal	Carrying Cost	Total
A	Review Petition No. 31 of 2018	265	636	901
B	Review Petition No. 64 of 2019	358	804	1162
C	Review Petition in respect of TO dated 28/08/2020	64	9	73
	Total (A+B+C)	687	1449	2136
Total Impact on account of past claims				
Sr. No.	Particulars	Principle	Interest	Total
1	Impact of APTEL Judgements yet to be implemented	3743	5357	9100
2	Impact of issues pending in review/before DERC	686	1449	2135
3	Impact of issues pending in Appeal before Hon'ble APTEL	2135	3183	5318
	Total	6564	9989	16553

C. ARR AND TARIFF FOR FY 2021-22

1.22 BRPL has projected the Energy Sales and Revenue for FY 2021-22 as follows:

Table 19: Estimated Energy Sales for FY 2021-22

Sr. No.	Category	Actual Sales during FY 2019-20	Growth rate considered	CAGR/Growth Rate	Projected Sales FY 2021-22	Drop in consumption due to COVID-19	Estimated Sales for FY 2021-22 considering the drop in consumption due to COVID-19
		MU	%		MU	MU	MU
1.	Domestic	4057			4221		4203
2.	Non-Domestic	1737			1669		1415
3.	Industrial	373			373		355
4.	Agriculture & Mushroom Cultivation	0	0.00%	NIL	0		0
5.	Public Utilities	392			361		286
6.	Advertisements and Hoardings	0	0.00%	NIL	0		0
7.	Temporary Supply	52	0.00%	NIL	52		52
8.	E-Vehicle	16	10.00%	assumed	18		18
9.	Self Consumption	13		0.25% of sales	17		16
10.	Enforcement	13	0.00%	NIL	13		13
11.	Others	3	0.00%	NIL	3		3
	Grand Total	6658			6727		6362

Table 20: Revenue estimated during FY 2021-22 (Rs. Cr.)

Sr. No.	Category	Fixed charges	Energy Charges	Other Charges	Total Revenue Billed
A	Domestic	189	1,704	-2	1,891
B	Non Domestic	467	1,213	-6	1,673
C	Industrial	63	288	-2	349
D	Agriculture	0	0	-	0
E	Public Utilities	55	198	-4	249
F	Temporary	8	44	-	53

Sr. No.	Category	Fixed charges	Energy Charges	Other Charges	Total Revenue Billed
	Supply				
G	Advertisement & Hoardings	0	0	-	0
H	E Vehicle	-	8	-	8
I	Self consumption	-	-	-	-
J	Enforcement	-	18	-	18
K	Others	-	1	-	1
Total		782	3,474	-14	4,243
Total Collection @ 99.50%					4,222

Note: Impact of TOD included in Energy Charge.

- 1.23 BYPL has considered the Distribution Loss @ 9.00% and Collection Efficiency @ 99.50% for FY 2021-22.

Table 21: Distribution Loss and Collection Efficiency Targets for FY 2021-22

Sr. No.	Particulars	%
A	Distribution Loss	8.75
B	Collection Efficiency	99.50

- 1.24 Based on the sales projected for FY 2021-22 and Distribution loss as specified for FY 2021-22 in *DERC Business Plan Regulations, 2019*, the energy requirement has been estimated by BYPL as follows:

Table 22: Energy Requirement for FY 2021-22

Sr. No.	Particulars	Unit	Quantity
A	Energy sales	MU	6362
B	Distribution Loss	%	8.75%
C	Energy Requirement	MU	6972
D	Distribution Loss	MU	610

- 1.25 The Quantum and Power Purchase costs from various sources including from short term sources have been summarized as follows:

Table 23: Quantum and Net Power Purchase Cost for FY 2021-22

Sr. No.	Source	Quantity (MU)	Amount (Rs. Cr.)	Average Cost (Rs./ kWh)
A	Power Purchase from CSGS	7656	2825	3.69
B	Inter-State Loss & Charges	206	510	
C	Cost towards REC		19	
D	Power Available at Delhi Periphery	7450	3354	4.50
E	Power Purchase from SGS*	658	387	5.89
F	Intra-State Losses & Charges including SLDC Charges	74	257	

Sr. No.	Source	Quantity (MU)	Amount (Rs. Cr.)	Average Cost (Rs./ kWh)
G	Shortfall to be met at DISCOM Periphery	310	109	3.50
H	Total Power available to DISCOM	8344	4106	4.92
I	Sales	6362		
J	Distribution Loss	610		
K	Less: Normative rebate		63	
L	Required power for the DISCOM	6972	3721	5.34
M	Total Sale of Surplus Power	1372	322	2.35

* includes SGS & State Renewable etc.

1.26 BYPL has computed the normative O&M expenses for FY 2021-22 as follows:

Table 24: O&M Expenses during FY 2021-22

Sr. No.	Assets/ lines	Avg. Capacity for FY 2021-22	Units	Rates	Amount (Rs. Cr.)
A	66 kV lines	254	Rs. Lakh/ Ckt. Km	5.043	13
B	33 kV lines	448			23
C	11 kV lines	3036	Rs. Lakh/ Ckt. Km	2.114	64
D	LT lines system	5729	Rs. Lakh/ Ckt. Km	9.524	546
E	66/11 kV grid sub-station	1878	Rs. Lakh/ MVA	1.201	23
F	33/11 kV grid sub-station	2230	Rs. Lakh/ MVA	1.201	27
G	11/0.415 kV DT	3620	Rs. Lakh/ MVA	2.631	95
	Total				790

1.27 In terms of Regulation 11(9) of the *DERC Tariff Regulations, 2017*, BYPL has submitted the additional O&M expenses estimated during FY 2021-22 as Rs. 265 Cr.

Table 25: Additional O&M Expenses during FY 2021-22

Particulars	Amount (Rs. Cr.)
Additional Impact of 7 th Pay Commission	216
Legal Expenses	21
Expenses for raising loan	10
Loss on sale of retired assets	19
O&M Expenses beyond the control of BYPL	265

1.28 The Petitioner has considered the gross capitalisation of Rs. 430 Cr. (including consumer contribution for deposit works) during FY 2020-21 as approved by the Commission in the *DERC Business Plan Regulations, 2019*.

1.29 BYPL has computed the depreciation as follows:

Table 26: Computation of rate of Depreciation for FY 2021-22

Sr. No.	Particulars	Amount (Rs Cr.)
A	Opening GFA for FY 2019-20 as per Audited Accounts	3714.2
B	Closing GFA for FY 2019-20 as per Audited Accounts	3920.6
C	Average GFA as per Books of Accounts	3817.4
D	Depreciation as per Audited Accounts	193.6
E	Average rate of depreciation (%)	5.07%

1.30 The depreciation for FY 2021-22 is calculated as follows:

Table 27: Depreciation for FY 2021-22

Sr. No.	Particulars	Amount (Rs. Cr.)
A	Opening GFA for FY 2020-21	3950
B	Addition during FY 2020-21	408
C	Opening GFA for FY 2021-22	4358
E	Additions during the year	430
F	Closing GFA for FY 21-22	4788
G	Average GFA	4573
H	Less: Average Consumer Contribution	383
I	Average GFA net of CC	4190
J	Average rate of depreciation (%)	5.07%
K	Depreciation for FY 2021-22	212
L	Opening Accumulated Depreciation for FY 2021-22	1702
M	Closing Accumulated Depreciation for FY 2021-22	1914

1.31 BYPL has computed RoCE for FY 2021-22 as follows:

Table 28: RoCE for FY 2021-22

Sr. No.	Particulars	Submission
A	WACC	15.54%
B	RRB (i) (Rs. Cr.)	2932
C	RoCE (Rs. Cr.)	455

1.32 BYPL has considered the Non-Tariff Income during FY 2021-22 as Rs. 73 Cr.

1.33 The Aggregate Revenue Requirement during FY 2021-22 is tabulated as follows:

Table 29: Aggregate Revenue Requirement for FY 2021-22 (Rs. Cr.)

Sr. No.	Particulars	Amount
A	Power Purchase Cost including Transmission Charges	3721
B	O&M Expenses	790
C	Additional O&M Expenses	265
D	Depreciation	212
E	Return on Capital Employed (RoCE)	455
F	Less: Non-Tariff income	73
G	Aggregate Revenue Requirement excl. Carrying Cost on RA	5370

1.34 The Revenue (Gap)/Surplus for FY 2021-22 at existing tariff is as follows:

Table 30: Revenue (Gap)/ Surplus at Existing Tariff for FY 2021-22 (Rs. Cr.)

Sr. No.	Particulars	Amount
A	Aggregate Revenue requirement for the year	5370
B	Revenue available for the year	4222
C	Revenue (Gap)/ Surplus for the year	(1148)

1.35 BYPL has submitted the Regulatory Assets till FY 2019-20 as follows:

Table 31: Regulatory Assets till FY 2019-20 (Rs. Cr.)

Sr. No.	Particulars	FY 2019-20
A	RA Creation	
1	Opening RA for FY 2019-20	2,292
2	Revenue Gap during FY 2019-20	609
3	Rate of carrying cost	14%
4	Carrying cost accrued during the year	364
5	Amortisation through 8% surcharge	377
6	Amortisation of carrying cost	228
8	Closing RA for FY 2019-20 on stand-alone basis	2,660
9	Add:	
A	Impact of APTEL Judgements and review petitions (including carrying cost upto FY 20)	11,236
10	Total closing RA for FY 2019-20	13,895
B	Add: Impact of pending Appeals before ATE if upheld in favour of Petitioner (including carrying cost upto FY 20)	5,318
11	Grand Total closing RA for FY 2019-20	19,213

Proposal on Tariff Structure:

- 1.36 BYPL has requested to implement the following proposals on Tariff Structure for FY 2021-22:
- a) Determine fixed and variable charges in accordance with Regulation-130 and Regulation-131 of *DERC Tariff Regulations, 2017*.
 - b) Review the present 8% surcharge towards accumulated deficit and approve a revised surcharge to ensure time bound recovery of Regulatory Assets/Revenue Gap.
 - c) Existing Power Purchase Adjustment Cost (PPAC) mechanism may be implemented on monthly basis instead of quarterly basis.
 - d) Address the issue of Cross subsidization among all categories by restructuring the existing tariff structure and common tariff may be adopted across all categories of consumer matching with average cost of supply of the Petitioner.
 - e) Explore the possibility of further simplifying the tariff structure of the Petitioner without adversely affecting the interest of the consumers.
 - f) Suitable commission preferably 3% to be provided on collection of Pension Trust Surcharge.
 - g) GoNCTD Subsidy amount to be passed on the basis of Direct Benefit Transfer.
 - h) Exclusion of dishonest consumers for GoNCTD Subsidy.
 - i) Waiving of the procession fee on account of digital payment charged by the Bank/Gateway and allow the same as a pass through in the ARR of the Petitioner.
 - j) Levy of Disconnection penalty on account of non-payment of dues by defaulting consumers.
 - k) Tariff for charging stations for Electric Vehicle may be approved equivalent to average cost of supply of the Petitioner.
- 1.37 In view of the above, BYPL proposes to determine a suitable cost reflective Tariff in terms of Regulation-130 and Regulation-131 of *DERC Tariff Regulations, 2017*, so as to recover the projected Revenue Gap.