## Introduction

- 1.1. BSES Rajdhani Power Limited (BRPL), the Distribution Licensee has filed the Petition for approval of True up for FY 2013-14, Review for FY 2014-15 and Aggregate Revenue Requirement (ARR) & Tariff determination for FY 2015-16.
- 1.2. This Executive Summary contains the summary of the Petition filed by BRPL for True up of FY 2013-14 (based on audited accounts), and ARR & Tariff of FY 2015-16 (based on projections).
- 1.3. For the purpose of comparison, this Executive Summary also includes the figures approved in the Tariff Order dated July 31, 2013 for FY 2013-14.
- 1.4. As per the MYT Regulations 2011, the Tariff for FY 2015-16 shall be based on the ARR approved by the Commission, which broadly has the following components:
  - a. Power Purchase cost
  - b. Operation and Maintenance (O&M) expenses
    - Employee expenses
    - Administrative & General (A&G) expenses
    - Repair & Maintenance (R&M) expenses
  - c. Return on Capital Employed (ROCE)
  - d. Depreciation
  - e. Income tax
  - f. Non-tariff income
- 1.5. The Commission shall True up the ARR FY 2013-14 as per MYT Regulations 2011 after prudence check.
- 1.6. Depreciation and RoCE shall be trued up every year based on actual capital expenditure and actual capitalization vis-a-vis capital investment plan approved by the Commission

## Truing Up for FY 2013-14

## **Energy Sales and Revenue**

1.7 In its Petition, BRPL has submitted that its actual energy sales in FY 2013-14 were 9652MU compared to energy sales of 9885 MU approved by the Commission for FY 2013-14 in the 31<sup>st</sup> July, 2013 Order. Since energy sales are treated as an uncontrollable factor, BRPL has requested the Commission to approve true up for FY 2013-14 based on its audited accounts, as shown below:

		31 <sup>st</sup> July, 2	013 Order		Actuals	
SI. No.	Category	Sales (MU)	Revenue (Rs. Cr)	Sales (MU)	Revenue billed (Rs. Cr)	Revenue collected (Rs. Cr)
1	Domestic <sup>#</sup>	5411	3201	5348	3243	3290
2	Non Domestic *	2883	2517	2765	2875	2945
3	Industrial	537	421	526	489	486
4	Public Lighting	166	120	161	131	104
5	Irrigation & Agriculture	18	5	15	6	6
6	Railway Traction	36	24	35	26	26
7	DMRC	294	158	253	163	163
8	Others @	540	371	549	492	405
а	DIAL			221	184	183
b	DJB			210	186	183
С	Enforcement			26	35	35
d	Own Consumption			23	0	0
е	Temporary			66	82	0
f	Advertisement and Hoardings			3	5	4
	Total	9885	6820	9652	7424	7425
9	Less: Bad debts written off				52	0
10	Less: Amount on account of surcharge @ 8%				514	507
11	Less: Electricity Tax				309	304
12	Less: LPSC Collected					22
13	Total Amount				6550	6592

Table 1: Sales and Revenue for FY 2013-14

\* Excluding DIAL and DJB

@ including DIAL & DJB

# including 11KV Worship/Hospitals and DVB Staff

The Petitioner has requested the Commission to approve the actual sales at 9652 MU and Revenue billed of Rs. 6550 Crore (excluding 8% surcharge of Rs. 514 Crore, Electricity Tax of Rs. 309 Crore and Other adjustments of Rs. 52 Crore) and revenue collected at Rs. 6592 Crore (excluding 8% surcharge of Rs. 507, Crore Electricity Tax of Rs. 304 Crore and LPSC of Rs. 22 Crore).

## AT&C Loss for FY 2013-14

- 1.8 The Petitioner has submitted that the actual AT&C loss and Distribution loss figures for FY 2013-14 are higher than the loss level target set for FY 2013-14 in the Tariff Order dated 31<sup>st</sup> July, 2013.
- 1.9 The Petitioner has sought revision in AT&C Loss trajectory from FY 2012-13 to FY 2014-15 based on actual loss achieved at the end of FY 2011-12 which is tabulated below:

SI.	Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
No					
1	AT&C Loss approved in	15%			
	MYT Order dated July				
	13, 2012				
2	Reduction Year-over-		0.83%	0.83%	0.83%
	Year				
3	AT&C Loss approved in	18.11%			
	TO dated July 31, 2013				
4	Revised AT&C Loss		17.28%	16.45%	15.62%
	trajectory sought				

Table 2: Revised AT&C Loss trajectory from FY 2012-13 to FY 2014-15

1.10 The following Table shows the actual AT&C loss as given in the petition, along with Distribution loss and collection efficiency for FY 2013-14 vis-à-vis that approved in the July, 2013 Order.

SI. No.	Particulars	Approved in Tariff Order 31 <sup>st</sup> July, 2013	Actuals as per Petition
1	AT&C Loss	13.33%	15.60%
2	Collection Efficiency	99.50%	100.64%
3	Distribution Loss	12.89%	16.14%

Table 3: Approved and Actual AT&C Loss for FY 2013-14

#### **Power Purchase Quantum and Cost**

- 1.11 The quantum of Power Purchase is decided by the expected sales of energy by the Licensee, as well as the loss levels projected/approved. Higher expected sales require a greater quantum of power to be purchased. Similarly, higher loss levels also require a proportionately greater amount of power purchase by the Licensee because it needs to meet the expected sales (in MU) after accounting for various losses in the process of supplying electricity.
- 1.12 The energy sales for the year is grossed up by the loss levels of that year, to arrive at the required quantum of power purchase for that year in the following manner:

1.13 The Table below shows the actual sales, loss level, and power purchase for FY 2013-14, as submitted by licensee.

SI. No.	Particulars	Approved in Tariff Order dated 31 <sup>st</sup> July, 2013	Actuals as per Petition
1	Sales (MU)	9885	9652
2	Distribution Loss (%)	12.89%	16.14%
3	Energy required at DISCOM Periphery (MU)	11348	11509

Table 4: Power Purchase Requirement for FY 2013-14

- 1.14 In its Petition, BRPL has submitted that the BRPL purchases almost 90% of the power from Government owned companies by virtue of long term PPAs which have been inherited from DTL (initially signed by M/s. DTL). The quantum of power purchased from various generators are accounted / metered by Government bodies like NRLDC / SLDC. The price at which the power is to be purchased are determined by independent Commissions like CERC / DERC.
- 1.15 The following Table shows the actual Power Purchase Cost submitted by the Petitioner for FY 2013-14 along with the cost approved by the Commission for FY 2013-14 in Tariff Order dated 31<sup>st</sup> July, 2013.

SI.	Particulars	Quantum	(MU)	Cost (Rs. Crore)		
No.		Approved in Tariff Order dated July 31,	Submission in the Petition	Approved in Tariff Order dated July 31,	Submission in the Petition	
		2013		2013		
Α	Power Purchase					
i	Gross Power Power	13647	14256	5573	6183	
	Purchase	13047	14230	575	0185	
ii	Power sold to other sources	1805	2271	722	611	
	Net power purchase	11842	11985	4851	5573	
В	Transmission Loss					
	Inter-state Transmission	355		293	381	
	Loss	300	176	476 192	201	
	Intra-state Transmission	139	470		194	
	Loss	159			194	
	Other Transmission charges				67	
	Total Transmission Loss	494	476	485	642	
С	Rebate					
	Power Purchase Rebate			110	41	
	Rebate on Transmission			10		
	charges			10		
	Total Rebate			119	41	
	Net power available after	11348	11509	5247	6174	
	Transmission Loss	11348	11203	5217	01/4	

## Table 5: Power Purchase Quantum and Cost for FY 2013-14

## O&M Expenses

1.16 The Petitioner has submitted that the O&M expenses approved by the Commission in Tariff Order dated 31<sup>st</sup> July, 2013 and now claimed in the petition are as given in Table below:

Table 6: O&M	Expenses for FY 2013-14
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			(Rs. Crore)	
SI.	Particulars	FY 2013-14		
No.		Approved in Tariff	Submission in the	
		Order dated July 31, 2013	Petition	
1	Employee Expenses	286.07	379.26	
2	A&G Expenses	95.51	98.00	
3	R&M Expenses	126.39	126.39	
4	Total O&M Expenses	507.97	603.65	
5	Efficiency factor %	3%	0%	
6	Less: Efficiency improvement	15.24	0	
7	Add: SVRS Pension	7.39	7.39	
8	Net O&M Expenses	500.12	611.04	

## **Other Expenses**

1.17 The Petitioner has discussed the item wise claims on account of miscellaneous expenses which were not entirely covered under the expenses in Tariff order dated 13<sup>th</sup> July, 2012 as detailed below.

Table 7: Miscellaneous Expenses claimed during FY 2013-14 <sup>@</sup>
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		(Rs. Crore)
SI. No	Particulars	Amount
1	Incremental License fees paid to DERC	2.09
2	Ombudsman Expenses	0.01
3	Fees for geo-spatial access	0.28
4	Incremental License fees paid on assets	0.27
5	Syndication fees / borrowing Costs / Documentation	35.82
6	Rebate on account of Monthly billing	15.47
7	Loss on retirement of assets during FY 14	0.17
8	Total	54.10

@ for details refer to the Tariff Petition

1.18 The Petitioner has requested the Commission to allow the aforesaid expenses incurred during FY 2013-14 in the ARR during FY 2013-14.

## Non Tariff Income

1.19 The Non Tariff Income claimed by the Petitioner in the True up for FY 2013-14 is as detailed in the Table below:

			(Rs. Crore)
		As Approved	Claimed in the
SI.		in Tariff	Petition
No.	Particulars	Order dated 13-	
		07-2012	
А	Other Operating Revenue		172.47
В	Other Income		45.54
С	Total other income as per Audited Accounts		218.02
D	Income from Interest on CSD		48.03
Ε	Total Other Income		266.04
F	Less: Income from other business		31.94
А	Consultancy Business		4.02
В	Street Light Maintenance Business		27.92
G	Less: interest on Contingency Reserve		1.55

Table 8: Non-Tariff Income	during F	Y 2013-14 <sup>@</sup>
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## Executive Summary of BRPL's Petition for True up of FY 2013-14, APR of FY 2014-15 and ARR of FY 2015-16

SI. No.	Particulars	As Approved in Tariff Order dated 13- 07-2012	Claimed in the Petition
Н	Less: Interest on loans and Advances to staff		0.01
Ι	Less: LPSC		21.78
J	Less: Rebate on Power Purchase and Transmission Charges		40.55
К	Less: write-back of Miscellaneous provisions		5.87
L	Less: Short term gain		7.67
М	Less: Recoveries from employees		0.02
Ν	Less: Transfer from consumer contribution for Capital works		9.63
0	Commission on ED		9.16
Р	Less: Bad Debts recovered		2.59
Q	Less: Penalties from contractors		0.08
R	Less: scale of Scrap		8.61
S	Net Income considered as NTI	125	126.59

@ for details refer to the Tariff Petition

#### **Income from Other Business**

1.20 The Petitioner has submitted that the summary of total income received from other business and proposed to be retained by the Petitioner is as tabulated below:

(Rs. Crore)

			FY 20	13-14				
SI. No.	Particulars	Total income (Rs. Crore )	Petitioners Share: ARR	Amount Retained	Amount passed on to consumers			
1	Consultancy Business	4.02	4.02	2.68	1.34			
2	Street Light Maintenance charges	27.92	27.92	18.61	9.31			
3	Total	31.94	31.94	21.29	10.65			

@ for details refer to the Tariff Petition

#### Depreciation

1.21 The Petitioner has submitted that the Depreciation has been calculated after excluding consumer contribution from the Gross Fixed Assets in accordance with

DERC Tariff Regulations 2011. The Petitioner has submitted the total depreciation from FY 2007-08 to FY 2013-14 after implementation of ATE Judgments is as under:

						(KS	. Crore)
Particulars	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14
Average GFA	3149	3509	3887	4215	4472	4706	5010
Average consumer contribution and grants	124	160	206	256	291	332	389
Average assets net of consumer contribution	3025	3348	3681	3960	4181	4374	4620
Average deprecation as above	3.61%	3.65%	3.66%	3.67%	3.68%	3.69%	3.70%
Depreciation	109	122	135	145	154	161	171

## Table 10: Amount of Depreciation from FY 2007-08 to FY 2012-13

(Rs. Crore)

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#### Return on Capital Employed

1.22 The Petitioner has submitted the details of Regulated Rate Base (RRB), Weighted Average Cost of Capital (WACC) and the Return on Capital Employed (RoCE) during FY 2013-14 in the Table below:

				(Rs. Crore)				
SI.	Particulars	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14
No.								
A	Opening balance of Original Cost of fixed assets	3019	3279	3738	4037	4394	4550	4863
В	Opening Balance of working capital	72	328	341	490	566	683	521
С	Opening Balance of Accumulated Depreciation	984	1093	1216	1350	1496	1649	1811
D	Opening Balance of Consumers contributions	112	136	185	227	284	298	366
Е	Opening RRB [A+B-C-D]	1994	2378	2678	2949	3180	3285	3207
F	Investments capitalised	261	459	299	357	156	313	294
G	Depreciation	109	122	135	145	154	161	171
Н	Consumer contribution	23	49	42	57	13	69	47
Ι	Change in working capital	256	13	149	76	117	-161	63
J	RRB closing	2378	2678	2949	3180	3285	3207	3346
К	$\triangle$ AB change in Regulated base	384	300	271	231	106	-78	101
L	RRB (i) considered for RoCE of FY 2013-14	2314	2535	2888	3102	3291	3166	3308

#### Table 11: Regulated Rate Base (RRB)

								Rs. Crore)
SI.	Particulars	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14
No.								
Α	Average Debt	1226	1424	1571	1687	1741	17432	1741
В	Average Equity	864	1001	1126	1243	1338	1414	1488
С	Total	2090	2425	2697	2930	3079	3157	3229
D	Cost of Debt	10.34%	11.12%	11.52%	12.30%	14.16%	14.47%	14.15%
E	Return on Equity	16%	16%	16%	16%	16%	16%	16%
F	Weighted average	12.68%	13.14%	13.39%	13.87%	14.96%	15.16%	15.00%
	cost of capital (WACC)							

Table 12: Weighted Average Cost of Capital (WACC)

Table 13: Return on Capital Employed (RoCE) from FY 2007-08 to FY 2013-14

							(Rs. C	crore)
SI.	Particulars	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14
No.								
A	Weighted average cost of capital (WACC)	12.68%	13.14%	13.39%	13.87%	14.96%	15.16%	15.00%
В	RRB (i)	2314	2535	2888	3102	3291	3327	3245
С	RoCE	293	333	387	430	492	504	487

#### Income Tax

1.23 The Petitioner has submitted that the Commission in its Tariff Order dated 23<sup>rd</sup> July, 2014 has compared the Income Tax entitlement based on the Return on Equity and Actual Income Tax paid during respective financial year and allowed lower of the two as Income Tax during FY 2012-13.

The Petitioner has stated that the Income Tax ought to be allowed on RoE approach and not on comparative approach between RoE and actual Income Tax.

The Petitioner has submitted that the Petitioner is claiming the Income Tax during FY 2013-14 on RoE approach as a part of Truing up requirement during FY 2013-14 as tabulated below:

	(Rs. Crore)						
SI. No.	Particulars	Reference	FY 2013-14				
1	Average Equity	А	1488				
2	Average Debt	В	1741				

Table 14: Income Tax during FY 2013-14

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SI. No.	Particulars	Reference	FY 2013-14
3	% Equity	C=A/(A+B)	46%
4	RRB	D	3245
5	Amount of Equity	E=C*D	1495
6	Rate of Return	F	16%
7	Return of Equity	G=E*F	239
8	Income-Tax Rate	Н	20.01%
9	Income-Tax calculated	I=G/(1-H)-G	60

#### **Revised Annual Revenue Requirement for FY 2013-14**

 1.24 Based on the above discussion the Petitioner has submitted that the Annual Revenue Requirement during FY 2013-14 vis-à-vis that approved in the Tariff Order dated July 31, 2013 is as given in the Table below:

		FY 2013-14			
SI. No.	Particulars	Approved Tariff Order dated July 31, 2013	Submission in the Petition		
A	Purchase of power including transmission and SLDC charges	5217	6174		
В	O&M Expenses	500	611		
С	Other expenses / Statutory levies		54		
D	RoCE	361	496		
Е	Depreciation	143	171		
F	Income Tax	35	60		
G	Sub total	6256	7566		
Н	Less: Non tariff income	125	127		
Ι	Less: Income from Other business		11		
J	Less: Interest on CSD				
К	Net Aggregate Revenue Requirement	6131	7428		

#### Table 15: Annual Revenue Requirement during FY 2013-14

(Rs. Crore)

## Revenue (Gap) / Surplus

1.25 The Petitioner has submitted that the Revenue gap during FY 2013-14 is as tabulated under:

#### Table 16: Revenue (Gap) / Surplus for FY 2013-14

(Rs. Crore)

		FY 20	13-14
SI. No.	Particulars	Tariff Order dated July 31, 2013	Submission
А	ARR for FY 2013-14	6131	7428
В	Revenue available towards ARR	6995	6592
С	Revenue (Gap) / Surplus	865	(837)

#### Past periods True up

- 1.26 The Petitioner has submitted that the claims pertaining to true up pending with respect to earlier periods have been divided into two parts as under:
  - a) Directions of Hon'ble ATE given in various judgements
  - b) Previous claims where either additional data was sought or there are certain arithmetical errors.

Table 17: Total impact claimed on account of implementation of Hon'ble ATE
Judgement <sup>@</sup>
(Rs. Crore)

		(Rs. Crore)
SI.No	Particulars	Total
1	Increase in employee expenses due to increase in	198
	consumer base	
2	Truing-up of capitalisation from FY 2008 to FY 2013	2009
3	Financing cost of LPSC to be allowed on SBI PLR	22
4	R&M Expenses and A&G Expenses from FY 2005 to FY	94
	2007	
5	Payment towards SVRS Optees	140
6	True-up 11 Months – 12.1	526
7	Re-determination of distribution loss	299
8	Efficiency factor on sixty pay commission Arrears	7
9	Arbitrary determination of efficiency factor – FY 2012	22
10	Fixation of AT&C reduction target for FY 2011-12	61
11	Truing-up of AT&C Loss for FY 2008-09	146

SI.No	Particulars	Total
12	Wrong verification of sales in kWh figures for FY 2010	34
13	Disallowance of carrying cost on reactive energy	1
14	Impact of DVB Arrears	6
15	Total	3564

@ for details refer to the Tariff Petition

## b) Previous claims where either additional data was sought or there are certain

#### arithmetical errors.

Based on the above submissions the total impact claimed by the Petitioner on account of previous claims is as tabulated below:

#### Table 18: Total Impact claimed on account of previous claims @

(Rs. Crore)

SI.	Particulars	Amount
No.		
1	Amount pertaining to regulation of power	173
2	R&M expenses as per MYT order from FY 08 to FY 13	99
3	Interest on funding of carrying cost	272
4	Income recovered on account of bad debts	16
5	Syndication fees	112
6	Loss on retirement of assets	76
7	Consideration of normative rebate	82
8	Additional UI charges	31
9	Trading margin	5
10	Ombudsman expenses	0.03
11	Excess provisions written back	3
12	Translation of petition in Hindi	0.01
13	LPSC during FY 2012-13	15
14	Non Tariff income	45
15	Rebate @ more than 1%	(72)
16	Total	857

@ for details refer to the Tariff Petition

The Petitioner has submitted that the Impact pertaining to previous years (Impact of DERC / APTEL / High / Supreme Court Judgments) is directly carried in the balance of Regulatory Asset.

## ARR of FY 2015-16 Energy Sales and Revenue

1.27 The Petitioner has projected the energy sales at 10444 MU for FY 2015-16 and Revenue at Rs. 7791 Crore for FY 2015-16.

CI		FY 203	15-16
SI. No.	Category	Sales as per Petition	Expected Revenue
NO.		(MU)	(Rs. Crore)
1	Domestic	5919	3623
2	Non Domestic	2884	2951
3	Industrial	481	442
4	Public Lighting	167	128
5	Irrigation & Agriculture	15	5
6	Railway Traction	43	33
7	DMRC	306	195
8	Others	628	416
а	DIAL	208	175
b	Worship/Hospitals		
С	DJB	272	236
d	DVB Staff		
е	Enforcement	56	0
f	Own Consumption	23	0
g	Temporary	66	0
h	advertisement and Hoardings	3	5
	Total	10444	7791

#### AT&C Losses

1.28 The Petitioner has submitted that they are seeking revision for AT&C loss trajectory from FY 2012-13 to FY 2014-15, therefore has considered a reduction of 0.83% in accordance with the trajectory specified by the Commission vide TO dated July 13, 2012.

The Petitioner has further submitted that further for the computation of AT&C Loss for FY 2015-16, the Petitioner has followed the below tabulated methodology:

SI.No	Particulars	Formula	FY 2015-16
1	Opening AT&C loss approved for FY 2011-12	А	18.82%
2	Closing AT&C Loss for FY 2013-14 (Actuals)	В	15.60%

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SI.No	Particulars	Formula	FY 2015-16
3	Redn. Trajectory approved in the Tariff Order	С	0.83%
	July 2013		
4	Redn. Trajectory considered for FY 2015-16	E = (C/A) X D	0.65%
5	AT&C Loss target for FY 2015-16	F- D-E	14.12%

1.29 The Petitioner has projected that AT&C loss for FY 2015-16 as shown in the Table below

Table 20:	AT&C Los	s during F	/ 2015-16
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SI. No.	Particulars	As per Petition
1	T&D Loss	12.81%
2	Collection efficiency	98.50%
3	AT&C Loss	14.12%

#### **Power Purchase Requirement**

- 1.30 The quantum of Power Purchase is arrived at by the estimated sales of energy and Distribution losses as projected / approved. Higher sales require greater quantum of power. Similarly higher losses result in higher quantum of power purchase to meet the expected sales.
- 1.31 The energy sales for the year are grossed up by the loss levels for the year, to arrive at the required quantum of power purchase for that year in the following manner.

Quantum of Power Purchase (MU) = Energy Sales (MU) 1-(Distribution loss(%)/100)

1.32 The sales, loss level, energy balance and power purchase for FY 2014-15 as submitted by the licensee is given in Table below:

SI. No	Particulars	UoM	As per the Petition
1	Energy Sales	MU	10444
2	Distribution loss	%	12.81%
3	Distribution Loss	MU	1534

#### Table 21: Energy Requirement for and FY 2015-16

SI. No	Particulars	UoM	As per the Petition
4	Energy at DISCOM periphery	MU	11978

SI.No	Particulars	UoM	FY 2015-16
Α	Energy Availability		
i	Total energy available (excluding BTPS, SGS TOWMCL & Solar)	MU	12199
ii	Inter-State Transmission Losses	%,	3.70%
		MU	452
iii	Energy Available from BTPS, SGS TOWMCL & Solar	MU	3365
iv	Energy Available at State transmission	MU	15112
В	Energy Requirement		
i	Energy Sales	MU	10444
ii	Distribution Loss	%	12.81%
		MU	1534
iii	Energy requirement at distribution periphery	MU	11978
iv	Intra-state transmission los	%	1.29%
V	Energy Requirement at Transmission Periphery	MU	12135
С	Surplus Energy	MU	2978

## Table: 22: Energy Balance during FY 2015-16

#### **Power Purchase Cost**

1.33 The Petitioner has submitted that they have considered the actual power purchase cost excluding LPSC during FY 2014-15 (April 2014 to September 2014) and the estimated power purchase cost during FLY 2014-15 (October 2014 to March 2015) for calculation of total power purchase cost during FY 2014-15.

The estimated quantum of power purchase and cost of purchase for FY 2015-16 as submitted by the Petitioner is shown in Table below:

SI.	Name of	FY 2015-16		
No.	Generating Station	Quantum (MU)	Cost (Rs. Crore)	Average Rate (Rs./ kWh)
Α	NTPC Station			
1	Anta Gas	83	33	4.03

Table 23: Power Purchase cost proposed for FY 2015-16

			FY 2015-16			
SI. No.	Name of Generating Station	Quantum (MU)	Cost (Rs. Crore)	Average Rate (Rs./ kWh)		
2	Auraiya Gas	135	62	4.58		
3	Dadri Gas	188	78	4.17		
4	Dadri – I	2515	1072	4.26		
5	Dadri - II	2205	1067	4.84		
6	Farakka	67	26	3.82		
7	Kahalgoan - I	153	61	3.96		
8	Kahalgoan - II	472	189	4.01		
9	Rihand-I	30	69	2.29		
10	Rihand-II	378	87	2.30		
11	Rihand-III	396	116	2.93		
12	Singrauli	202	38	1.86		
13	Unchahar-I	72	28	3.94		
14	Unchahar-II	141	55	3.82		
15	Unchahar-III	87	38	4.36		
	Aravali			7.00		
16	Power corporation Ltd	211	147			
	Sub-Total	7606	3165	4.16		
В	NHPC Stations					
1	Bairasul	30	6	1.97		
2	Chamera-I	79	13	1.69		
3	Chamera-II	79	20	2.54		
4	Chamera-III	51	22	4.33		
5	Dhauliganga	17	11	6.55		
6	Dulhasti	118	60	5.11		
7	Salal	163	16	0.97		
8	Tanakpur	18	6	3.15		
9	Uri	118	18	1.50		
10	Sewa-II	28	15	5.38		
11	Prabati –II	95	40	4.27		
12	Uri – II	32	22	6.71		
	Sub-Total	828	249	3.01		
С	THDC					
i	Tehri HEP	182	67	3.68		
ii	Koteshwar	65	21	3.26		
	Sub-Total	247	88	3.57		
D	DVC					
i	Chandrapur (Ext-7 and 8)	668	299	4.48		
ii	Mejia (Unit-6)	267	119	4.44		
	Sub-Total	935	418	4.47		
Ε	Nuclear Stations					
i	NPCIL -NAPS	111	27	2.39		
ii	RAPS -5 & 6	192	65	3.41		
	Sub-Total	303	92	3.03		
F	SJVNL	351	84	2.38		

	Name of Generating Station	FY 2015-16			
SI. No.		Quantum (MU)	Cost (Rs. Crore)	Average Rate (Rs./ kWh)	
	Sub-Total	351	84	2.38	
G	Others				
i	Tala HEP	44	9	2.02	
ii	Sasan UMPP	601	79	1.31	
	Sub-Total	645	88	1.36	
Н	Delhi Generating Stations				
i	BTPS	1420	760	5.35	
ii	Rajghat	266	160	5.99	
iii	Gas Turbine	480	287	5.99	
iv	Pragati-I	614	347	5.66	
v	Pragati-III, Bawana	536	632	11.80	
vi	TOWMCL	47	13	2.83	
vii	Thyagraj Solar	1	0	0.00	
	Sub-Total	3365	2200	6.54	
	Total	14280	6384	4.47	
	Power Purchase from Other			4.13	
Ι	Sources	1284	530		
J	Grand total	15564	6914		
К	Power sold to other sources	2978	577	1.94	

## **Renewable Power Purchase Obligation**

1.34 As per DERC RPO Regulations, 2012, the BRPL is required to purchase 0.30% of total energy sales through solar energy sources during FY 2015-16. BRPL has considered the energy received through Thyagraj Solar for meeting RPO Target and rest through RECs at forbearance price.

The Petitioner has submitted the cost of REC purchase for meeting Solar RPO during FY 2015-16 is as tabulated below:

SI. No	Particulars	UoM	FY 2015-16
1	Energy Sales	MU	10444
2	RPO Target-Solar	%	0.30%
3	RPO Target-Solar	MU	31
4	Availability from Thyagraj	MU	1
5	Required to be met through RECs	MU	30
6	REC Rates	Rs./kWh	13.40
7	Cost for REC Purchase	Rs. Crore	40

## Table 24: Cost of REC purchase for meeting solar RPO during FY 2015-16

1.35 As per DERC RPO Regulations, 2012, the BRPL is required to purchase 7.30% of total energy sales through non solar energy sources during FY 2014-15 and FY 2015-16. BRPL has considered the energy received through TOWMCL for meeting RPO Target and rest through RECs at forbearance price as under:

The Petitioner has submitted the cost of REC purchase for meeting Non-Solar RPO during FY 2015-16 is as tabulated below:

SI. No	Particulars	UoM	FY 2015-16
1	Energy Sales	MU	10444
2	RPO Target-non-Solar	%	7.30%
3	RPO Target-non-Solar	MU	762
4	Availability from TOWMCL	MU	47
5	Required to be met through RECs	MU	715
6	REC Rates	Rs./kWh	3.30
7	Cost for REC Purchase	Rs. Crore	236

 Table 25: Cost of REC purchase for meeting non solar RPO during FY 2015-16

## Transmission Charges

1.36 The Petitioner has projected the Intra State & Inter State Transmission charges forFY 2015-16 as given in Table below:

SI. No	Particulars	FY 2015-16
Α	Transmission Losses (MU)	
1	Inter-State Transmission	452
2	Intra-State Transmission	157
	Total Transmission Losses (MU)	609
В	Transmission charges (Rs. Crore)	
1	Inter-State Transmission*	319
2	Intra-State Transmission#	297
3	Contribution towards pension fund	190
	Total Transmission charges (Rs. Crore)	806

\*Includes Open access charges # includes SLDC charges

## **Total Power Purchase Cost**

1.37 The total power purchase cost during FY 2015-16 is below:

Table 27	7: Total Power Purchase cost for FY 2015-16
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cl		FY 2015-16			
SI. No.	Source	Quantum	Cost	Avg	
NO.		(MU)	(Rs. Crore)	Cost	
	Power purchase from CSGS (				
	including short term power	12199	4714	3.86	
А	purchase)				
В	Interstate loss	452	319		
с	Power available at Delhi periphery	11748	5033	4.28	
D	Power purchase from SGS	3365	2200	6.54	
E	Intra state loss and charges including SLDC	157	487		
F	Power available to DISCOM	14956	7720	5.16	
G	Sales	10444			
Н	Distribution Loss	1534			
I	Required power for the DISCOM	11978	7143	5.96	
J	Surplus power available at DISCOM boundary	2978	577	1.94	
К	Additional Cost on RPO		277		
L	Less: Power Purchase Rebate		0		
	Less: Rebate on Transmission		0		
М	charges		0		
	Net Power Purchase expenses				
N	including transmission charges and RPO	11978	7420	6.19	

#### Other Components of ARR

- 1.38 The other components of ARR are:
  - a) O&M Expenses
  - b) Depreciation
  - c) Return on Capital Employed
  - d) Income Tax
  - e) Non-Tariff Income

## **O&M** Expenses

1.39 The Petitioner has submitted that, the Petitioner has sought revision in trajectory of Employee and A&G Expenses from FY 2012-13 to FY 2014-15. The Petitioner has

arrived at Employee and A&G Expenses for FY 2014-15 by applying an escalation factor of 8% on revised Employee and A&G Expenses for FY 2013-14. Further the Petitioner has considered the Employee and A&G Expenses of FY 2014-15 as the base and applied the inflation factor of 9.09% to arrive at Employee and A&G Expenses for FY 2015-16. BRPL has computed the inflation factor of 9.09% based on data for CPI and WPI index available from FY 2008-09 to FY 2013-14.

Further, the Petitioner has applied "k" factor of 3.55% (as approved during first control period) on opening GFA for FY 2015-16 to arrive at R&M Expenses during FY 2015-16.

The Petitioner has not considered any efficiency factor during FY 2015-16. Further and also considered SVRS Pension during FY 2015-16 equal to that approved by the Commission during FY 2014-15 in Tariff Order dated July 13, 2012.

The O&M expenses for FY 2015-16 are as tabulated under:

		(Rs. Crore)
SI.	Particulars	FY 2015-16
No.		
1	Employee Expenses	446.75
2	A&G Expenses	115.44
3	R&M Expenses	194.15
4	Total O&M Expenses	756.34
5	Efficiency Improvement	0.00%
6	Add: SVRS Pension	7.39
7	Net O&M Expenses	763.73

Table 28: O&M	<b>Expenses during</b>	FY 2015-16
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#### Depreciation

1.40 The Petitioner has projected the Depreciation for FY 2015-16 tabulated below:

SI. No.	Particulars	Amount (Rs. Crore)
А	Gross Fixed Assets	
i	Opening balance	5457
ii	Additions during FY	500
iii	Closing balance	5957
В	Consumer contribution	

Table 29: Depreciation during FY 2015-16 (Rs. Crore)

(D. C. . . . )

SI. No.	Particulars	Amount (Rs. Crore)
iv	Opening balance	423
v	Additions during FY	97
vi	Closing balance	52
С	Grants	
vii	Opening balance	19
viii	Additions during FY	0
Ix	Closing balance	
D	GFA net of consumer contribution	
х	Opening balance	5015
xi	Additions during FY	403
xii	Closing balance	5418
Е	Average rate of depreciation	3.71%
F	Depreciation	194

## Advance Against Depreciation

Petitioner has projected Advance Against Depreciation for FY 2015-16 as tabulated 1.41

SI. No.	Particulars	Amount (Rs. Crore)
А	1/10 opening project / CAPEX loans	176
В	Debt repayment	176
С	Minimum of A&C B	176
D	Depreciation as per ARR routed for	
U	repayment of loans	194
Е	Excess of Min(A,B) over depreciation	0
F	Cumulative Repayment (C)	1802
G	Cumulative Depreciation (D)	2356
	Excess of repayment (C) over	
Н	Depreciation (D)	0
I	Advance Against Depreciation (AAD)	0

## **Return on Capital Employed (RoCE)**

The Petitioner has projected Return on Capital employed for FY 2015-16 as tabulated 1.42 under:

SI. No.	Particulars	Amount (Rs. Crore)
А	Equity	1666
В	Debt	1810
С	Total	3476
D	Rate of Return on Equity	16%
Е	Rate of Return on Debt	14%
F	RRB (i)	3520
G	WACC	15.04%
Н	RoCE	529

#### Table 31: Return on Capital Employed during FY 2015-16 (Rs. Crore)

#### Income Tax

1.43 The Petitioner has projected Income Tax for FY 2015-16 as tabulated below:

#### Table 32: Income Tax during FY 2015-16

(Rs. Crore)

SI.			
No.	Particulars	Reference	FY 2015-16
1	RRB Average	А	3520
2	Average Equity	В	1666
3	Average Debt	С	1810
4	% Equity	D=B/(B+C)	48%
5	Amount of Equity	E=A*D	1688
6	Rate of Return	F	16%
7	Return on Equity	G=E*F	270
8	Income-Tax Rate	Н	20.01%
9	Income-Tax	I=G/(1-H)-G	68

## Non Tariff Income

1.44 The Non tariff income during FY 2015-16 has been considered equivalent to that estimated by the Commission for FY 2014-15 in Tariff Order dated 13<sup>th</sup> July, 2012.

Table 33: Non Tariff Income	during FY 2015-16
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(Rs. Crore)

SI. No.	Particulars	FY 2015-16
1	Non Tariff Income	125

## Annual Revenue Requirement for FY 2015-16

1.45 The Petitioner has projected the Annual Revenue Requirement (ARR) for FY 2015-16

as shown in the Table below:

#### Table 34: Annual Revenue Requirement (ARR) during FY 2015-16

(Rs. Crore)

SI. No	Particulars	FY 2015-16
1	Net Power Purchase Cost including Transmission charges	7420
2	O&M Expenses	764
3	Other Miscellaneous Expenses	-
4	Depreciation	194
5	Advance Against Depreciation	0
6	RoCE	542
7	Income Tax	68
8	Sub total	8987
9	Less: Non-Tariff Income	125
10	Add: PPAC Balance	0
11	Aggregate Revenue Requirement	8862
12	Carrying Cost of regulatory Asset	-
13	ARR with Carrying cost	8862

## **Retail and Wheeling Charges**

3

**Total ARR** 

1.46 The Petitioner has submitted that the total distribution ARR is allocated to wheeling and Retail supply based for FY 2015-16 as tabulated as below:

SI. No	Particulars	FY 2015-16	
1	Wheeling ARR	1032	
2	Retail ARR	7829	

Table 35: Retail Supply and Wheeling ARR for FY 2015-16 (Rs. Crore)

The wheeling cost allocated to different voltage levels has been divided by the energy sales at corresponding voltage levels to arrive at wheeling charges per unit for different voltages.

8862

The Petitioner has submitted that the wheeling charges and Retail Supply Charges per unit for different voltages as tabulated below:

Table 36: Wheeling Charges and Retail Supply Charges per unit at different voltage
levels

			(Rs./ Unit)
SI.	Particulars	Wheeling Charges	Retail Supply Charges
No		FY 2015-16	FY 2015-16
1	Above 66 kV level	0.00	0.00
2	At 66 kV level	0.00	0.00
3	At 33 kV Level	0.87	6.63
4	At 11 kV level	0.89	6.72
5	At LT level	1.02	7.77
	Total	0.99	7.50

The wheeling cost allocated to different voltage levels has been divided by the energy sales at corresponding voltage levels to arrive at wheeling charges per unit for different voltages.

Further BRPL has referred to ATE Judgment dated November 29, 2014 (Appeal 278 of 2013) and has requested the Commission to include regulatory asset charge as a part of wheeling charge for open access consumers.

## Revenue Gap during FY 2015-16.

1.47 In its Petition, BRPL has computed the revenue based on category-wise tariffs approved by the Commission in Tariff Order dated July 23, 2014. For the purpose of computation of revenue gap for FY 2015-16, BRPL has considered the revenue from existing tariff excluding 8% surcharge and Electricity Tax as under:

Sl. NoParticularsFY 2015-16 (Projected)1Total ARR88622Revenue from Tariff excl. surcharge and E.Tax76213Revenue (Gap)/ Surplus-1241

Table 37: Revenue Gap for FY 2015-16 (Rs. Crore)

#### **Regulatory Assets**

1.48 The Petitioner has projected the closing balance of Regulatory Assets as given in the Table below:

SI.No.	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
Α	Opening balance of RA	-10786	-12796	-15851
В	Revenue Requirement for the	7428	8483	
	year			
С	Revenue at existing tariffs for the	6592	6976	
	year			
D	Addition during the year	-837	-1507	
E	Closing Balance	-11623	-14303	-15851
F	Carrying Cost %	15.01%	15.01%	15.01%
G	Carrying Cost	-1681	-2033	-2379
Н	Recovery through 8% Surcharge	507	486	614
I	Closing Balance of RA	-12796	-15851	-17616

Table 38: Revenue Gap/Surplus up to FY 2015-16 (Rs. Crore)

## Proposed Tariff Hike

1.49 The Petitioner has proposed following category-wise tariff hike to meet the estimated revenue gap during FY 2015-16:

SI. No	Category	Revenue at current tariff	Hike in Tariff	Revised Revenue proposed	Average Billing rate as per revised tariff
		Rs. Cr.	%	Rs. Cr.	Rs./ Unit
Α	Domestic	3609	16.29%	4197	7.09
i	Domestic -other than A (ii)	3483	16.29%	4051	7.07
ii	Single Delivery Point on 11 KV CGHS	126	16.29%	147	7.84
	Nex Demostic	2025	16 200/	2401	11 70
В	Non Domestic	2925	16.29%	3401	11.79
i	Non Domestic Low Tension (NDLT)	1796	16.29%	2089	12.29
ii	Non Domestic High Tension (NDHT)	1128	16.29%	1312	11.08
С	Industrial	440	16.29%	511	10.63
i	Small Industrial Power (SIP)	356	16.29%	415	10.93
ii	Industrial Power on 11kV SPD for Group of SIP Consumers	0	16.29%	0	0
iii	Large Industrial Power (LIP)	83	16.29%	97	9.53
D	Agriculture	4	16.29%	5	3.58
Ε	Mushroom Cultivation	1	16.29%	1	99.42
F	Public Lighting	128	16.29%	149	8.92
i	Metered	32	16.29%	38	8.49
ii	Unmetered	95	16.29%	111	9.07
G	Delhi Jal Board (DJB)	233	16.29%	271	9.95
i	DJB-Supply at LT	91	16.29%	106	10.71
ii	DJB (Supply at 11 KV and above)	141	16.29%	165	9.51

Table 39: Proposed category-wise tariff hike

# Executive Summary of BRPL's Petition for True up of FY 2013-14, APR of FY 2014-15 and ARR of FY 2015-16

SI. No	Category	Revenue at current tariff	Hike in Tariff	Revised Revenue proposed	Average Billing rate as per revised tariff
		Rs. Cr.	%	Rs. Cr.	Rs./ Unit
н	Delhi International Airport Limited (DIAL)	170	<b>16.29%</b>	198	9.5
I	Railway Traction	32	16.29%	37	8.57
J	DMRC	191	16.29%	222	7.26
к	Advertisement and Hoardings	5	16.29%	6	16.29
L	Temporary Supply	0	16.29%	0	0
М	Others	0	16.29%	0	0
i	Enforcement	0	16.29%	0	0
ii	Self-consumption	0	16.29%	0	0
Ν	Total	7737	16.29%	8997	8.61

## Other Submissions:

- 1.50 In its Petition, BRPL has proposed the following tariff rationalisation proposals:
  - > Modification in present PPAC Formula:

BRPL has submitted that the present PPAC formula should be suitably modified to factor in variation in all the following constituents:

- Fixed and Variable cost of the long term generation contracts or of Regulated plants
- Transmission costs
- Change in the quantum and price of short term power (bilateral/power exchange/UI)
- Loss on sale of surplus power on account of wide variation in the load curve during the day & year on account of huge difference in actual sale price and that considered in the tariff order
- Arrears payable to Genco/Transco on account of retrospective adjustment of tariff pursuant to orders of the appropriate Commission.
- Any under/ over recovery of power purchase variations on account of uncontrollable sales in next quarter.

PPAC is proposed to be calculated on a quarterly basis and passed on the cost credit/debit in consumer bills of the subsequent month. The post facto reconciliation and approval of the Commission is proposed to be on quarterly basis. The formula for calculation of the PPAC Component of Z-factor charge shall be given as under:

## Z<sub>PPAC</sub> (Rs. Crore)= F+C+B,

Where,

*Z*<sub>PPAC</sub>= *Z*-factor charge- component of PPAC for the nth month

- F= Change in fuel cost of own generation and cost of power purchase
- C= Carrying cost for any under recovery/ over recovery on account of change in fuel cost of own generation and cost of power purchase, computed at State Bank of India Advance Rate prevailing at the beginning of nth month;

B= Adjustment factor for under-recovery/ over-recovery;

The calculation of PPAC to be charged for the month n shall be as follows:

## PPACn (Rs. Crore)= F<sub>n-2</sub>+ C<sub>n-2</sub>+ B<sub>n-2</sub>

Explanation-I: For the purpose of this formulae, the term "F" shall be computed based on the norms and directives of the Commission, including heat rate, auxiliary consumption etc.

A<sub>FCpp</sub>: Change in net power purchase cost of other sources

 $A_{FC\,Gen}$ : Change in power purchase cost of own generation

Explanation-II: for the purpose of formulae, the term "C" shall mean carrying cost on account of change in cost of power purchase

Explanation-III: for the purpose of this formulae, the term "B" shall be computed in accordance with following formula:

$$B_{n-2}$$
 (Rs. Crore) =  $A_{n-4} - R_{n-2}$ 

Where,

 $B_{n-2} = Adjustment factor for under-recovery/ over-recovery for the month n-2$  $A_{n-4} = Incremental cost in month "n-4"$ 

 $R_{n-2}$ = Incremental cost in month "n-4" actually recovered in the month "n-2"

Provided that monthly PPAC Charge shall not exceed 20% of the variable component of tariff

Provided further that any excess in the PPAC Charge over and above 15% shall be carried forward by the Distribution Licensee and shall be recovered over such period as may be directed by the Commission.

The total PPAC Component of Z-factor charge recoverable as per the formulae specified above shall be recovered from the actual sales in Rs. per kWh terms:

Provided further that where the actual distribution loss of the Distribution Licensee exceed the level approved by the Commission, the amount of PPAC component of Z factor charge corresponding to the excess distribution loss (in kWh terms) shall be deducted from total PPAC component of Z-factor charge recoverable.

Calculation of Z<sub>PPAC</sub> per kWh for a particular tariff category/ sub-category/ consumption slab shall be as per following formulae:

Z<sub>FACCat</sub> Rs./ kWh= [Z / (Sales+ Excess distribution loss)] X K X 10

Where:

 $Z_{FACCat}$  = PPAC Component for a particular tariff category/ sub-category/ consumption slab in Rs./ kWh terms of Z-factor charge

"k" = Average Billing rate/ Average Cost of Supply

BRPL has further submitted that the aforesaid formula is already being implemented effectively in State of Maharashtra and the consumers of Maharashtra are enjoying the benefit of lesser tariff hike as the variations on account of power purchase cost are immediately recovered. Further the Utilities are allowed to recover entire variation on account of power purchase cost including short term transactions.

## > Slab rationalisation for Domestic Consumers opting for net metering:

The Petitioner has submitted that after implementation of net metering, the domestic consumers would be billed only for net energy flowing to their premises from the licensees grid. Under such circumstances, these consumers who were otherwise cross-subsidizing the low-end consumers, would now enjoy slab benefit at the cost of other consumers. Not only this, they would also get financial benefit for the energy contributed by them to the licensee's grid.

The Petitioner has proposed that domestic consumers who would be opting for net metering should have a single slab for energy consumption upto 800 units, which should be charged at rates defined for 401-800 units of normal domestic consumers. This will ensure that the high end consumers does not avail the benefit of both the slab rate as well as net – metering.

## > Increase in cash limit for payment of electricity bills.

The Petitioner has requested the Commission to increase the amount of payment of Electricity bills from Rs. 4000/- to 20, 000/-.

The Petitioner has quoted the practice adopted by nine other State Electricity Regulatory Commission where there is no limit on cash payment.

#### > Extension Time of Day Tariff for loads upto 10 KW for all consumers:

The Petitioner has submitted that the current applicability of ToD is for all consumers (Other than Residential) whose sanctioned load/MDI (whichever is higher) is 100 KW/ 108 KVA and above. Although this has some impact on the peak load but much required to be done by implementing ToD even for the lower loads.

The Petitioner has proposed to introduce ToD Tariff to all consumers having load more than 10 KW. This will result in chapping the peak load. It is submitted that presently, for all loads more than 10 KW, three phase meters are installed have capacity to record energy consumption in pre defined time slots.

## > Adjustment of Consumer Security Deposit:

The Petitioner has submitted that presently charging consumers security deposit as per Section 29 of the "Delhi Electricity Supply Code and Performance Standards Regulations, 2007" where for all new consumers are to be charged a fixed rates based on their load. The current methodology of collecting security deposit is discriminatory. Ideally, Consumer Security Deposit has to be linked with the consumption of individual consumer, the prevailing tariff as well as billing cycle.

It is therefore, proposed that the security deposit collected from consumer to be linked to the consumption profile and applicable Tariff of individual consumer i.e., to the bill amount and bill amount equivalent to billing cycle. The proposed mechanism will also benefit low end consumers as they will have to pay lower deposits.

The Petitioner has also quoted seven other SERCs where Security Deposit is linked with the consumption/billing amount.

## > Open Access to 1 MW and above consumers:

The Petitioner has submitted that while promoting the Open Access, the issue of Regulatory Assets which is nothing but the past accumulated revenue gap, is required to be addressed as the consumers moving out on open access were also the part of the system during that period and Regulatory Assets need to be recovered from them so as to avoid any burden on remaining consumers of the DISCOMs.

The Petitioner has proposed to include recovery of Regulatory Assets either by considering its effect in tariff and fixing CSS (i.e. "x" should be considered as "Tariff and Regulatory Asset" or by way of a separate charge.