

# **GUJARAT ELECTRICITY REGULATORY COMMISSION**



## **Tariff Order**

Truing up for FY 2015-16,  
Approval of Final ARR for FY 2016-17,  
Approval of Multi-Year ARR for FY 2016-17 to FY 2020-21  
and Determination of Tariff for FY 2017-18

For

**Uttar Gujarat Vij Company Limited  
(UGVCL)**

**Case No. 1622/2016  
31<sup>st</sup> March, 2017**

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**GUJARAT ELECTRICITY REGULATORY COMMISSION  
(GERC)  
GANDHINAGAR**

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## Abbreviations

A&G	Administration and General Expenses
AB Cable	Aerial Bunched Cable
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
CAGR	Compound Annual Growth Rate
CAPEX	Capital Expenditure
CERC	Central Electricity Regulatory Commission
Control Period	FY 2016-17 to FY 2020-21
DGVCL	Dakshin Gujarat Vij Company Limited
DISCOM	Distribution Company
EHV	Extra High Voltage
FPPPA	Fuel and Power Purchase Price Adjustment
FY	Financial Year
GEB	Gujarat Electricity Board
GERC	Gujarat Electricity Regulatory Commission
GETCO	Gujarat Energy Transmission Corporation Limited
GFA	Gross Fixed Assets
GoG	Government of Gujarat
GSECL	Gujarat State Electricity Corporation Limited
GUVNL	Gujarat Urja Vikas Nigam Limited
HT	High Tension
JGY	Jyoti Gram Yojna
kV	Kilo Volt
kVA	Kilo Volt Ampere
kVAh	Kilo Volt Ampere Hour
kWh	Kilo Watt Hour
LT	Low Tension Power
MCLR	Marginal Cost of Funds based Lending Rate
MGVCL	Madhya Gujarat Vij Company Limited
MTR	Mid Term Review
MUs	Million Units (Million kWh)
MW	Mega Watt
MYT	Multi Year Tariff
O&M	Operation & Maintenance



PF	Power Factor
PFC	Power Finance Corporation
PGCIL	Power Grid Corporation of India Limited
PGVCL	Paschim Gujarat Vij Company Limited
PPA	Power Purchase Agreement
PPPA	Power Purchase Price Adjustment
R&M	Repair and Maintenance
RE	Revised Estimate
RLDC	Regional Load Despatch Centre
SBAR	State Bank Advance Rate
SBI	State Bank of India
SLDC	State Load Despatch Centre
UGVCL	Uttar Gujarat Vij Company Limited
WRLDC	Western Regional Load Despatch Centre
YoY	Year on Year



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## **GUJARAT ELECTRICITY REGULATORY COMMISSION GANDHINAGAR**

**Case No. 1622 of 2016**

**Date of the Order 31.03.2017**

### **CORAM**

Shri Anand Kumar, Chairman

Shri K. M. Shringarpure, Member

Shri P. J. Thakkar, Member

### **ORDER**



# 1 Background and Brief History

## 1.1 Background

Uttar Gujarat Vij Company Ltd. (hereinafter referred to as UGVCL or the petitioner) has filed petition under Section 62 of the Electricity Act, 2003, read in conjunction with Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2016, for the True-up of FY 2015-16, final Aggregate Revenue Requirement for FY 2016-17, Multi-Year ARR from FY 2017-18 to FY 2020-21 and for determination of tariff for FY 2017-18 on 30<sup>th</sup> November, 2016.

After technical validation of the petition, it was registered on 3rd December, 2016 and as provided under Regulation 29.1 of GERC MYT Regulations, 2016, the Office registered the Petition on 3rd December, 2016 as Case No. 1622/2016.

## 1.2 Uttar Gujarat Vij Company Limited (UGVCL)

Government of Gujarat unbundled and restructured the Gujarat Electricity Board with effect from 1<sup>st</sup> April, 2005. The Generation, Transmission and Distribution businesses of the erstwhile Gujarat Electricity Board were transferred to seven successor companies. The seven successor companies are listed below:

**Generation** Gujarat State Electricity Corporation Limited (GSECL)

**Transmission** Gujarat Energy Transmission Corporation Limited (GETCO)

### Distribution Companies:

Sr. No.	Name of Company
1	Dakshin Gujarat Vij Company Limited (DGVCL)
2	Madhya Gujarat Vij Company Limited (MGVCL)
3	Uttar Gujarat Vij Company Limited (UGVCL)
4	Paschim Gujarat Vij Company Limited (PGVCL)



Gujarat Urja Vikas Nigam Limited (GUVNL), a holding company of the above named 6 subsidiary companies responsible for purchase of electricity from various sources and supply to Distribution Companies and also, other activities including trading of electricity.

Government of Gujarat, vide notification dated 3<sup>rd</sup> October, 2006, notified the final opening balance sheets of the transferee companies as on 1<sup>st</sup> April, 2005. The value of assets and liabilities, which stand transferred from the erstwhile Gujarat Electricity Board to the transferee companies, include Uttar Gujarat Vij Company Limited (UGVCL). Assets and liabilities (gross block, loans and equity), as on the date mentioned in the notification, have been considered by the Commission in line with the Financial Restructuring Plan (FRP), as approved by Government of Gujarat.

### **1.3 Commission's Order for the Second Control Period**

UGVCL filed its petition under the Multi-Year Tariff Framework for the control period from FY 2011-12 to FY 2015-16 on 12<sup>th</sup> May, 2011, in accordance with Gujarat Electricity Regulatory Commission (Multi-Year Tariff Framework) Regulations, 2011, notified by the Commission.

The Commission issued the new MYT Regulations, notified as GERC (Multi-Year Tariff) Regulations, 2011, on March 22, 2011.

Regulation 1.4 (a) of GERC (Multi-Year Tariff) Regulations, 2011 reads as under:

*“These Regulations shall be applicable for determination of tariff in all cases covered under these Regulations from 1<sup>st</sup> April, 2011 and onwards.”*

The Commission, in exercise of the powers vested in it under Sections 61, 62 and 64 of the Electricity Act, 2003, and all other powers enabling it in this behalf, and after taking into consideration the submissions made by UGVCL, the objections by various stakeholders, response of UGVCL, issues raised during the public hearing and all other relevant material, issued the Multi-Year Tariff order on 6<sup>th</sup> September, 2011 for the control period from FY 2011-12 to FY 2015-16, based on the GERC (MYT) Regulations, 2011. The Commission issued the following Orders on the dates shown against each:



- For truing up for FY 2010-11 and Tariff determination for FY 2012-13 on 2<sup>nd</sup> June, 2012.
- For truing up for FY 2011-12 and Tariff determination for FY 2013-14 on 16<sup>th</sup> April, 2013.

## **1.4 Commission's Orders for Mid-term Review of Business plan for UGVCL**

UGVCL filed its Petition for Mid-term Review of Business Plan and revision of ARR for balance years for FY 2014-15 and FY 2015-16 of the control period in terms of Regulation 16.2(i) of GERC (MYT) Regulations, 2011.

The Commission in exercise of the powers vested in it under Sections 61, 62 and 64 of the Electricity Act, 2003 and all other powers enabling it in this behalf and after taking into consideration the submission made by UGVCL, the objections by various stakeholders, response of UGVCL, issues raised during public hearing and all other relevant material, approved the revised ARR for FY 2014-15 and FY 2015-16 in the Mid-term Review of Business Plan for UGVCL on 29<sup>th</sup> April, 2014.

The Commission issued the order for truing up for FY 2012-13 and determination of Tariff for FY 2014-15 on 29<sup>th</sup> April, 2014.

The Commission issued the order for truing up for FY 2013-14 and determination of Tariff for FY 2015-16 on 31<sup>st</sup> March, 2015.

## **1.5 Commission's Order for tariff of FY 2016-17**

The Commission in its order dated 2<sup>nd</sup> December, 2015, in the Suo Motu Petition No. 1534/2015 decided that the approved ARR of FY 2015-16 of the licensees / generating companies concerned be considered as provisional ARR of the licensees / generating companies for FY 2016-17.

The Commission also decided that the licensees / generating companies shall file the ARR for FY 2016-17 based on the MYT Regulations for FY 2016-17 to FY 2020-21 and the true-up for the same shall also be governed as per the new MYT Regulations. It is also decided that the licensees / generating companies shall file the petition for determination of ARR and tariff for FY 2016-17



and true-up for FY 2014-15 within 3 weeks from the date of issuance of this order for Commission's consideration and decision.

Accordingly, the petitioner filed its petition for Truing-up of FY 2014-15 and determination of tariff for FY 2016-17 on 8<sup>th</sup> December 2015. The Commission approved the provisional ARR and the tariff for FY 2016-17 was determined accordingly vide order dated 31<sup>st</sup> March 2016.

## **1.6 Background for the present petition**

Regulation 16.2 (iii) of the MYT Regulations, 2011 provides for the truing up of previous year's expenses and revenue based on audited accounts vis-à-vis the approved forecast and categorization of variation in performance as those caused by factors within the control of the applicant (controllable factors) and those caused by factors beyond the control of the applicant (uncontrollable factors).

The Commission has notified the GERC (MYT) Regulations, 2016 for the control period of FY 2016-17 to FY 2020-21. The Regulation 16.2 (i) of the GERC MYT Regulations, 2016 provides for filing a Multi-Year Tariff Application comprising the forecast of Aggregate Revenue Requirement (ARR) for the entire Control Period.

## **1.7 Registration of the Current Petition and Public Hearing Process**

The Petitioner has submitted the current Petition for "truing up" of FY 2015-16, ARR for FY 2016-17 to FY 2020-21 and determination of tariff for FY 2017-18 on 30<sup>th</sup> November, 2016. The Petition (Case No. 1622/2016) was registered on 3<sup>rd</sup> December, 2016.

In accordance with Section 64 of the Electricity Act, 2003, UGVCL was directed to publish its application in an abridged form to ensure public participation. The Public Notice, inviting objections / suggestions from the stakeholders on the petition, was published in the following newspapers on 8<sup>th</sup> December, 2016:



Sl. No.	Name of Newspaper	Language	Date of Publication
1	The Indian Express	English	08/12/2016
2	Gujarat Samachar	Gujarati	08/12/2016

The petitioner also placed the public notice and the petition on its website ([www.ugvcl.com](http://www.ugvcl.com)), for inviting objections and suggestions. The interested parties/stakeholders were asked to file their objections / suggestions on the petition on or before 17<sup>th</sup> January, 2017.

The Commission received objections / suggestions from consumers / consumer organizations as shown in Table below. The Commission examined the objections / suggestions received and scheduled a public hearing on 9<sup>th</sup> February, 2017 at the Commission's Office at Gandhinagar and subsequently a communication was sent to the objectors to take part in the public hearing process for presenting their views in person before the Commission. The public hearing was conducted in Commission's Office in Gandhinagar on the above date.

The Commission received request from one stakeholder to postpone the date of public hearing and considering the request, the Commission fixed second date of public hearing for the petition on 14<sup>th</sup> February, 2017. The public hearing was conducted in the Commission's Office at Gandhinagar as scheduled on the above date.

The status of stakeholders who submitted their written suggestion / objections, those who remained present in public hearing, those who could not attend the public hearings and those who made oral submissions is given in the Table below:

The issues raised by the objectors, along with the response of DGVCL and the Commission's views on the response, are dealt with in Chapter 3 of this order



Sr. No.	Name of Stakeholders	Written Submission	Oral Submission	Present on 09.02.2017	Present on 14.02.2017
1.	Chiripal Poly Films Ltd.	Yes	Yes	Yes	No
2.	AIA Engineering Ltd.	Yes	Yes	Yes	No
3.	Kantibhai Chaturbhai Patel	Yes	Yes	Yes	No
4.	H.J. Patel	Yes	No	No	No
5.	K.K. Bajaj	Yes	Yes	Yes	No
6.	Laghu Udyog Bharti – Gujarat	Yes	Yes	No	Yes
7.	Gujarat Chamber of Commerce & Industry	Yes	Yes	Yes	No
8.	Raj Ginning Industries	Yes	No	No	No
9.	Govindbhai Jadavjibhai Patel	Yes	Yes	Yes	No
10.	Utility Users' Welfare Association (UUWA)	Yes	Yes	Yes	No
11.	Bhagwati Autocast Limited	Yes	Yes	Yes	No
12.	Arvind Ltd.	Yes	Yes	Yes	No
13.	UltraTech Cement Ltd.	Yes	Yes	Yes	No
14.	Jankalyan Foundation	Yes	Yes	Yes	No
15.	Aam Aadmi Party, Gujarat	Yes	Yes	Yes	No
16.	Kirti J. Amin, Pradesh Kisan Vikas Sangh	Yes	Yes	Yes	No
17.	Bharatiya Kisan Sangh	Yes	Yes	Yes	No
18.	Abellon Clean Energy	Yes	Yes	Yes	No
19.	All India Induction Furnace Association	Yes	Yes	Yes	No
20.	Indian Wind Energy Association	Yes	Yes	Yes	No

## 1.8 Approach of this Order

The GERC (MYT) Regulations, 2011, provide for “Truing up” of the previous year and determination of tariff for the ensuing year. The Commission has approved ARR for five years of the control period of FY 2011-12 to FY 2015-16 in the MYT Order dated 6<sup>th</sup> September, 2011 and the revised ARR for FY 2014-15 and FY 2015-16, based on Mid-term Review of the Business Plan vide MTR Order dated 29th April, 2014.



The Commission, vide order dated 02.12.2015 in Suo-moto Petition No. 1534/2015 decided to consider the approved ARR of FY 2015-16 in Mid-Term Review order dated 29.04.2014 as the provisional ARR for FY 2016-17 for determination of tariff for FY 2016-17 in view of delay in finalization of GERC (Multi-Year Tariff) Regulations for the third Control Period i.e. FY 2016-17 to FY 2020-21. It was also decided in the said order that Generating Companies, Transmission Licensees and Distribution Companies shall file final ARR for FY 2016-17 based on the new GERC (Multi-Year Tariff) Regulations, 2016 and truing up of the same shall be governed in accordance with the new GERC (Multi-Year Tariff) Regulations, 2016.

The GERC (Multi-year Tariff) Regulations, 2016 provide for determination of ARR for the third Control Period i.e. FY 2016-17 to FY 2020-21 and determination of tariff for FY 2017-18.

UGVCL has approached the Commission with the present Petition for “Truing up” of the FY 2015-16, determination of final ARR for FY 2016-17, determination of ARR for the third control period i.e. FY 2016-17 to FY 2020-21 and determination of tariff for the FY 2017-18.

In this Order, the Commission has considered the “Truing up” for the FY 2015-16, as per GERC (MYT) Regulations, 2011.

The Commission has undertaken “Truing up” for the FY 2015-16, based on the submissions of the Petitioner. The Commission has undertaken the computation of gains and losses for the FY 2015-16, based on the audited annual accounts.

While truing up of FY 2015-16, the Commission has been primarily guided by the following principles:

- Controllable parameters have been considered at the level approved as per the MYT Order, unless the Commission considers that there are valid reasons for revision of the same.
- Uncontrollable parameters have been revised, based on the actual performance observed.
- The Truing up for the FY 2015-16 has been considered, based on the GERC (MYT) Regulations, 2011.





The approval of Final ARR for FY 2016-17, approval of Multi-Year ARR for FY 2016-17 to FY 2020-21 and determination of Tariff for FY 2017-18 have been considered as per the GERC (Multi-Year Tariff) Regulations, 2016.

## 1.9 Contents of this Order

The Order is divided into nine chapters as detailed under:-

1. The **first chapter** provides a brief background regarding the Petitioner, the petition on hand and details of the public hearing process and approach adopted in this Order.
2. The **second chapter** outlines the summary of UGVCL's Petition.
3. The **third chapter** deals with the public hearing process, including the objections raised by various stakeholders, UGVCL's response and Commission's views on the response.
4. The **fourth chapter** focuses on the details of truing up for FY 2015-16.
5. The **fifth chapter** deals with the determination of ARR for FY 2016-17 to FY 2020-21.
6. The **sixth chapter** deals with compliance of directives and issue of fresh directives.
7. The **seventh chapter** deals with fuel and power purchase adjustments
8. The **eighth chapter** deals with wheeling and cross subsidy surcharges
9. The **ninth chapter** deals with tariffs for FY 2017-18



## 2 Summary of Truing up for FY 2015-16, ARR for FY 2016-17 to FY 2020-21 and Tariff for FY 2017-18

Uttar Gujarat Vij Company Limited (UGVCL) submitted the details of true-up of FY 2015-16, sought approval for aggregate revenue requirement for the control period FY 2016-17 to FY 2020-21 and requested for determination of retail supply tariff for FY 2017-18.

### 2.1 Actuals for FY 2015-16 submitted by UGVCL

The details of expenses under various components of ARR for FY 2015-16 are given in table below:

**Table 2.1: ARR proposed by UGVCL for FY 2015-16 for true up**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
1	Cost of Power Purchase	7,228.97	7,888.88	72.06	(731.96)
2	Operation & Maintenance Expenses	343.12	468.93	(51.26)	(74.54)
2.1	Employee Cost	373.28	433.82	(60.54)	-
2.2	Repair & Maintenance	76.21	59.72	16.49	-
2.3	Administration & General Charges	62.32	69.53	(7.21)	-
2.4	Other Debits	6.74	3.63	-	3.11
2.5	Extraordinary Items	0.57	14.75	-	(14.18)
2.6	Net Prior Period Expenses / (Income)	-	(0.35)	-	0.35
2.7	Other Expenses Capitalised	(176.00)	(112.18)	-	(63.82)
3	Depreciation	271.28	231.08	-	40.20
4	Interest & Finance Charges	158.81	135.58	-	23.23
5	Interest on Working Capital	-	-	-	-
6	Provision for Bad Debts	0.72	6.15	(5.43)	-
7	Return on Equity	147.76	147.90	-	(0.14)
8	Provision for Tax / Tax Paid	15.00	17.14	-	(2.14)



Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
9	ARR (1 to 8)	8,165.66	8,895.66	15.36	(745.36)
10	Non - Tariff Income	156.83	167.85	-	(11.02)
11	Total ARR (9-10)	8,008.83	8,727.80	15.36	(734.34)

## 2.2 Revenue Gap for FY 2015-16

As per the mechanism specified in the MYT Regulation 2011, UGVCL has proposed to pass on a sum of 1/3rd of total gain/(loss) on account of controllable factors i.e. Rs. 5.12 Crores and total gain/(loss) on account of uncontrollable factor i.e. Rs. (734.34) Crores to the consumers. Adjusting these to the net Aggregate Revenue Requirement, UGVCL has arrived at the Revised Aggregate Revenue Requirement for FY 2015-16 at Rs. 9,046.92 Crores.

This revised Aggregate Revenue Requirement is compared against the revised income under various heads including Revenue with Existing Tariff of Rs. 7,926.55 Crores, Other Consumer related Income of Rs. 252.35 Crores, Agriculture Subsidies of Rs. 536.06 Crores, summing up to a Total Revenue of Rs. 8,714.97 Crores. Accordingly, total Revenue Gap of UGVCL for FY 2015-16 after treatment of gain/(loss) due to controllable / uncontrollable factors is computed at Rs. 331.96 Crores as shown in the Table below:

**Table 2.2: Revenue Surplus/ (Gap) for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	2015-16
1	Aggregate Revenue Requirement originally approved for FY 2015-16	8008.83
2	Surplus/ (Gap) of FY 2013-14	(268.88)
3	DSM Programme expenditure	40.00
4	Gain / (Loss) on account of Uncontrollable factor to be passed on to Consumer	(734.34)
5	Gain / (Loss) on account of Controllable factor to be passed on to Consumer (1/3rd of Total Gain / Loss)	5.12
6	<b>Revised ARR for FY 2015-16 (1 - 2 + 3 - 4 - 5)</b>	<b>9046.92</b>
7	Revenue from Sale of Power	7926.55



Sr. No.	Particulars	2015-16
8	Other Income (Consumer related)	252.35
9	<b>Total Revenue excluding Subsidy (7 + 8)</b>	<b>8178.90</b>
10	Agriculture Subsidy	536.06
11	<b>Total Revenue including Subsidy (9+10)</b>	<b>8714.97</b>
12	<b>Revised Surplus/ (Gap) after treating gains/(losses) due to Controllable/ Uncontrollable factors (11-6)</b>	<b>(331.96)</b>

## 2.3 Aggregate Revenue Requirement (ARR) for the control period FY 2016-17 to FY 2020-21

Uttar Gujarat Vij Company Limited (UGVCL) submitted the petition on 30th November, 2016 seeking approval for Aggregate Revenue Requirement for the control period FY 2016-17 to FY 2020-21 and determination of Retail supply tariff for FY 2017-18. UGVCL has projected the revenue requirement for the control period as under:

**Table 2.3: ARR proposed by UGVCL for the control period FY 2016-17 to FY 2020-21**

(Rs Crore)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Cost of Power Purchase	8249.78	8843.67	9297.82	9724.98	10481.96
2	Operation & Maintenance Expenses	555.16	586.71	620.06	655.32	692.60
2.1	<i>Employee Cost</i>	<i>530.78</i>	<i>561.14</i>	<i>593.24</i>	<i>627.17</i>	<i>663.05</i>
2.2	<i>Repair &amp; Maintenance</i>	<i>94.29</i>	<i>99.68</i>	<i>105.39</i>	<i>111.41</i>	<i>117.79</i>
2.3	<i>Administration &amp; General Charges</i>	<i>80.65</i>	<i>85.26</i>	<i>90.14</i>	<i>95.30</i>	<i>100.75</i>
2.4	<i>Other Debits</i>	<i>3.63</i>	<i>3.63</i>	<i>3.63</i>	<i>3.63</i>	<i>3.63</i>
2.5	<i>Extraordinary Items</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
2.6	<i>Net Prior Period Expenses / (Income)</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
2.7	<i>Other Expenses Capitalised</i>	<i>(154.20)</i>	<i>(163.02)</i>	<i>(172.34)</i>	<i>(182.20)</i>	<i>(192.62)</i>
3	Depreciation	289.67	331.74	368.61	399.19	427.81
4	Interest & Finance Charges	145.76	151.30	153.47	150.91	145.83



Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
5	Interest on Working Capital	0.00	0.00	0.00	0.00	0.00
6	Provision for Bad Debts	6.15	6.15	6.15	6.15	6.15
7	<b>Sub-Total (1 to 6)</b>	<b>9246.53</b>	<b>9919.57</b>	<b>10446.11</b>	<b>10936.56</b>	<b>11754.34</b>
8	Return on Equity	164.32	181.11	197.59	212.51	226.97
9	Provision for Tax / Tax Paid	17.14	17.14	17.14	17.14	17.14
10	<b>Total Expenditure (7 to 9)</b>	<b>9427.99</b>	<b>10117.82</b>	<b>10660.84</b>	<b>11166.21</b>	<b>11998.45</b>
11	Less: Non-Tariff Income	148.09	148.09	148.09	148.09	148.09
12	<b>Aggregate Revenue Requirement (10 - 11)</b>	<b>9279.90</b>	<b>9969.73</b>	<b>10512.74</b>	<b>11018.12</b>	<b>11850.35</b>

## 2.4 Revenue gap for FY 2017-18

Based on the ARR for FY 2017-18 given in table above, the estimated revenue gap for FY 2017-18 at existing tariff is shown in the following table.

**Table 2.4: Estimated revenue surplus/ (gap) of UGVCL for FY 2017-18**

(Rs. Crore)

Sr. No.	Particulars	2017-18
1	Aggregate Revenue Requirement for FY 2017-18	9969.73
2	Revenue Gap from True up of FY 2015-16	331.96
3	<b>Total Aggregate Revenue Requirement for FY 2017-18</b>	<b>10301.69</b>
4	Revenue with Existing Tariff	6,297.77
5	FPPPA Charges @ 143 paisa/kWh	2709.24
6	Other Income (Consumer related)	252.35
7	Agriculture Subsidy	536.06
8	<b>Total Revenue including subsidy for FY 2017-18 (4 to 7)</b>	<b>9795.42</b>
9	<b>Surplus/ (gap) (8-3)</b>	<b>(506.27)</b>



## **2.5 UGVCL's request to the Commission**

1. To admit this Petition seeking True up of FY 2015-16, Determination of Multi-Year ARR for FY 2016-17 to FY 2020-21, Determination of final ARR for FY 2016-17 and Determination of Tariff for FY 2017-18.
2. To approve the True up for FY 2015-16 and allow sharing of gains/losses with the Consumers as per sharing mechanism prescribed in the GERC MYT Regulations, 2011.
3. To approve Multi-Year ARR for FY 2016-17 to FY 2020-21 as per GERC MYT Regulations 2016
4. To approve Final ARR for FY 2016-17
5. To consider approved True up parameters & Multi-Year ARR of GSECL, GETCO and SLDC while finalizing Tariff of the Petitioner.
6. To approve the terms and conditions of Tariff for FY 2017-18 and various other matters as proposed in this petition and proposed changes therein.
7. Pass suitable orders for implementation of Tariff Proposal for FY 2017-18 for making it applicable from 1<sup>st</sup> April, 2017 onwards.
8. To grant any other relief as the Commission may consider appropriate.
9. The Petitioner craves leave of the Commission to allow further submissions, addition and alteration to this Petition as may be necessary from time to time.
10. Pass any other Order as the Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice.



### **3 Brief outline of objections raised, response from UGVCL and the Commission's View**

#### **3.1 Stakeholders' suggestions / objections, Petitioner's Response and Commission's observation**

In response to the public notice, inviting objections / suggestions of the stakeholders on the petitions filed by DISCOMs for truing up of FY 2015-16, determination of ARR for FY 2016-17 to FY 2020-21 and determination of tariff for FY 2017-18, a number of consumers / consumer organizations filed their objections / suggestions. Some of these objectors participated in the public hearing also. Some of the objections are general in nature and some are specific to the proposals submitted by the petitioner. It is also noted that many of the objections/ suggestions are common to all the four DISCOMs and some are specific to the concerned DISCOM. The objections / suggestions are segregated into two groups viz. common to all DISCOMs and specific to concerned DISCOM. The Commission has, therefore, addressed the objections / suggestions issue-wise rather than objector- wise.

#### **3.2 Suggestions/Objections Common to all DISCOMs**

##### **1. GUVNL's role and conflict of interest**

Some of the stakeholders have raised the issue about the role of GUVNL. GUVNL cannot be a trader and a managing agent of the DISCOMs at the same time, without conflict of interest.

##### **Response of Discoms**

The petitioner has submitted that GUVNL derives its origin to the Transfer Scheme notification issued under the provisions of Section 28 of Gujarat Electricity Industry (Reorganisation and Regulation) Act, 2003 and Section 131 of the EA, 2003. The State Government issued the first transfer scheme through notification dt.24/10/2003 to form separate generation, transmission and distribution companies. Schedule G of the notification relates to bulk purchase of power from



generating companies and supply /sale to DISCOMs (apart from other residual obligations, etc). GUVNL was incorporated under State Govt notification dated 10/12/2004 for the purpose of transferring the assets liabilities and proceedings, mentioned in Schedule G of the GEB (to GUVNL), including trading in electricity. Further, the State Government through notification dated 31/03/2005, finalised the transfer scheme w.e.f 01/04/2005.

### **Commission's View**

The objection and the detailed response are noted. GUVNL is a holding company and is also entrusted with bulk purchase of power and supply to DISCOMs. There is no conflict of interest. Any profit in trading is passed on to the DISCOMs.

### **2. Power factor related penalty/ rebate applicable to LTMD consumers**

The rate of "penalty/ rebate" charges for LTMD and HT category consumers for not maintaining appropriate power factor should be equal.

### **Response of DISCOMs**

The Petitioner has clarified that HT consumers have higher contract demand with the DISCOM as well as higher consumption and therefore, HT consumers cause more burden on the network by drawing more reactive energy than that caused by LT consumers. The penalty to the consumers for maintaining Power Factor should be in proportion to the impact caused on the system due to non-maintenance of P.F. Also, HT category consumers have appropriate mechanisms to control P.F. unlike LT category consumers, and therefore, such LT category consumers may tempt to provide higher capacitive compensation, which might have adverse impact on system in terms of voltage profile and also endanger the network for the person working on it.

### **Commission's view**

The Commission is in agreement with the Petitioner's response.





### **3. Time of use charges**

Morning peak hours, and subsequent higher charges should be done away with. Further, actual peak hour should be derived based on last year's data and peak hour charges should be rationalized based on difference of Power Purchase rate for non- peak hour and Peak hour.

#### **Response of DISCOMs:**

The Petitioner has submitted that the cost of supplying power at peak hours is significantly higher and network requirement for peak hour supply is also high. Thus, tariff structure is devised recognizing this fact and allow recovery at higher rates for peak hour use. Any change in the peak hour time zone shall change the consumption pattern and accordingly "Load Curve" will also change. Therefore, present peak hours' time zones are appropriate and need not to change.

#### **Commission's view**

The response of the Petitioner is self-explanatory. Since the present Load Curve is controlled due to defined peak hours; it does not reflect the unrestricted peak demand during these hours.

### **4. Duplicate Recovery by Additional Surcharge**

The stakeholder has stated that FPPPA formula covers power purchase cost which includes fixed cost payable under PPAs and the same fixed costs are covered under the computations for additional surcharge which results in duplicate recovery.

#### **Response of DISCOMs**

The petitioner has submitted that basic nature of FPPPA is 'adjustment' related to power purchase cost i.e. passing on the increase or decrease, as the case may be. The FPPPA charge is being levied on the consumer categories on account of the change in the cost of power purchase, which comprises almost 80% to 85% of the Distribution Licensee's Aggregate Revenue Requirement.

Any expense pertaining to the regulated business of the Distribution Licensee has to be recovered from all consumers in some manner, therefore the FPPPA charges are recovered in the form of



an incremental energy charge (Rs/kwh) recovered as per formulae approved by the Commission whereas the additional surcharge is levied only from open access consumers as OA consumers are not drawing their contracted demand from the licensee due to which the obligation of licensee in terms of Power Purchase Commitments has been and continues to be stranded/there is an unavoidable obligation and incidence to bear fixed costs consequent to such contract. The additional surcharge is determined by the Commission in its orders.

### **Commission's View**

The Commission noted the replies of the petitioner on FPPPA charges and observed that FPPPA charges are applied as approved by the Commission. As distribution utilities plan their power purchase in advance, shifting to open access impacts the financials of the discoms negatively, as discoms would still be paying the fixed costs for stranded demand which no longer exists due to shifting to open access. Therefore, additional surcharge is applied on open access consumers as per the provision of Section 42(4) of the Electricity Act 2003, read with GERC (Terms and Conditions of Open Access), Regulations 2011.

### **5. FPPPA charges- Higher power purchase cost for FY 2015-16**

Power purchase cost of 2015-16 should be Rs. 3.76 + actual increase during the year @ Rs. 0.23 (1.43 - 1.20) = Rs. 3.99 and not Rs. 4.18 calculated as per figures given in the Petitions. The Commission should look into for this difference of Rs 0.19 per Unit. If this Rs. 0.19 is applied on total power purchased units of 81125 MUs, it is Rs. 1541 Crores higher and the DISCOMs have not given any further clarification and information for this mismatch.

### **Response of DISCOMs**

The recovery of FPPPA from consumers is based on the formula approved by the Commission and is recovered based on actual payment made to generators, whereas power purchase cost is accounted in the Books of Accounts on accrual basis.



The difference between power purchase cost as per FPPPA and as per Books Accounts indicates that payment for certain power purchase cost is to be made in future as and when claim is made by generators and to be recovered from consumers in future when actual payment is made.

As far as the rate for sale of surplus power is concerned, the Petitioner stated that power is sold when available rate is higher than marginal cost of generation so that overall power purchase cost gets reduced.

### **Commission's view**

The Commission has not considered the power purchase cost booked on accrual basis in some cases when no actual payment is made. Since such accounting is made in anticipation of expected liability depending upon the final judgment, it is not appropriate to consider such liability at this moment till actual payment is made.

### **6. Proposal to shift base power purchase cost to FY 2015-16**

Company has proposed to shift the base power purchase cost for purpose of computation of FPPPA charges from FY 2012-13 to FY 2015-16.

### **Response of DISCOMs**

While projecting power purchase cost for FY 2017-18 and onwards the petitioner has considered the power purchase price of various sources as per actual of FY 2015-16. Company has proposed to shift the base power purchase cost for the purpose of computation of FPPPA charges from FY 2012-13 to FY 2015-16 and accordingly change in base FPPPA is proposed from Rs. 1.20 per Kwh to Rs. 1.43 per Kwh, the weighted average actual FPPPA charges of FY 2015-16 and accordingly while estimating the revenue for FY 2017-18, the petitioner has considered the revised base FPPPA i.e. Rs 1.43 per kWh and computed the "Gap".

### **Commission's view**

The Commission has noted the response of the DISCOM. The Commission has dealt with this issue in this order.



## **7. HVDS Scheme failed to fetch results**

Some stakeholders stated that HVDS schemes are very expensive and have not been able to reduce the losses.

### **Response of DISCOMs**

The Petitioner has submitted that the implementation of the HDVS scheme is being undertaken in phases as it is a material and manpower intensive scheme and hence, the results of the scheme are not yet visible. The results will be apparent once a major part of the distribution network is converted to HDVS.

### **Commission's view**

The Commission agrees with the Petitioner that with HVDS the overall technical losses will come down and pilferage of energy by tapping LT lines will be eliminated. The Commission has directed the DISCOM to expedite the implementation of HVDS scheme so that loss levels could be brought down further.

## **8. Tariff proposal not in accordance with Law and not admissible**

The stakeholder has raised query regarding the validity of the tariff determination process and petition filed by the discoms.

### **Response of DISCOMs**

The petitioner has submitted that it has filed petition for True Up of FY 2015-16 under GERC (Multi Year Tariff) Regulations, 2011 and Determination of Multi-Year ARR for FY 2016-17 to 2020-21 & Determination of Final ARR for FY 2016-17 & Tariff Determination for FY 2017-18 under GERC (Multi Year Tariff) Regulations, 2016 along with other guidelines and directions issued by the GERC from time to time AND under Part VII (Section 61 to Section 64) of the Electricity Act, 2003 read with the relevant Guidelines.



### **Commission's view**

The Commission found the petition as per GERC (MYT) Regulations, 2011 and 2016 and within the overall framework of the Electricity Act, 2003.

### **9. Separate tariff for each DISCOM**

The cross-subsidization amongst the four DISCOMs (Unbundled entities of erstwhile GEB) is objectionable since the benefits of the better performing DISCOMs are not transferred to the consumers. The DISCOMs should, therefore, not charge uniform tariff.

### **Response of DISCOMs**

The Petitioner has refuted the objection saying that uniform retail supply tariff for all four DISCOMs has been envisaged so that consumers in the similar categories in the State could have similar tariff and there may not be any discrimination between the consumers, which is also the objective of EA 2003. Further, the Petitioner has clarified that different DISCOMs have different revenue earning capabilities due to the differences in the consumer profiles and hence, it is necessary to bring them on a level playing field which is achievable through differential Bulk Supply Tariff (BST).

### **Commission's view**

Response of DISCOMs explains the circumstances under which the uniform tariffs are adopted for all four DISCOMs.

### **10. Sales Projection**

The sales projected for HT category by the companies are not consistent.

### **Response of DISCOMs**

The Petitioner has submitted that the sales estimation for the control period for FY 2016-17 to FY 2020-21 has been projected based on historical trend method as it has proved to be a reasonably accurate and well accepted method for estimating the load, number of consumers and energy consumption. The Petitioner has estimated the above for various customer categories primarily based on the CAGR trends during past years. Further, wherever the trend has seemed



unreasonable or unsustainable, the growth factors have been corrected by the company, to arrive at more realistic projections.

### **Commission's view**

The Commission has carefully reviewed the sales projections and they have been found to be appropriate and as per regulatory frameworks prescribed under MYT Regulations, 2016.

### **11. Modification in the NRGP category**

Make all the NRGP tariff slab as demand based tariff

### **Response of DISCOMs**

This is the suggestion to the Commission. DGVCL submits that any modification to be made by the Commission should be revenue neutral to the Company.

### **Commission's view**

The Commission has noted the objection of the stakeholder and response of the petitioner. The Commission would look into the matter and take appropriate actions after necessary examination.

### **12. Rationalization of Tariff slabs for residential category**

The stakeholder has proposed the following slabs:

- Slab 1: 0-50
- Slab 2: 51-200
- Slab 3: 201-400
- Slab 4: above 400

The residential consumers with consumption of less than 200 units per month should get more relief.

### **Response of DISCOMs**

The Petitioner has not proposed any Tariff revision or change in existing Tariff structure for FY 2017-18. Further, the Petitioner has mentioned that the tariff structures of different states are



designed keeping in mind the different social, economic, technical, demographic and other relevant parameters of the states. And that the Commission has time to time reviewed the Tariff structure and rationalized the tariff.

#### **Commission's view**

The Commission appreciates the suggestion and would further look in to the matter.

#### **13. Enhancing the load limit for getting supply at Low voltage level**

Increase LTMD load limit to 125 KW instead of the present 100 KW load.

#### **Response of DISCOMs**

The Petitioner has requested that any modification to be made by Commission should be revenue neutral to the Petitioner. It has further specified that the suggestion of the stakeholder is not related to the subject matter of the present petition. However, it is to be noted that allowing higher load at low voltage will increase the technical losses in the system which in turn will reflect as additional burden in the Tariff. Moreover, LTMD is demand based tariff wherein consumer can connect the load as per his requirement as provided in the Supply Code but has to maintain its maximum drawal within the contract demand with the Distribution companies

#### **Commission's view**

The Commission has noted the Petitioner's response.

#### **14. Enhancing the load limit for getting supply at 11KV voltage level**

Presently, HT connection is allowed up to 4000 KVA at 11 KV voltage level, After 4000 KVA, the consumer is asked to opt for EHT connection at 66 KV voltage level, which is very expensive compared to 11 KV level. Considering the present economic downturn, the industry is asking to be allowed to operate at 11KV level with more than 4000 KVA load.

#### **Response of DISCOMs**

The Petitioner has stated that allowing higher demand at lower voltage will be a contrary move to HVDS. Further, such high demand consumers will occupy significant capacity in the Power



Transformers which ultimately will lead to increase in 66 KV S/s requirement and cost of such 66 KV s/s shall have to be borne by the general mass of consumers which otherwise would have been borne by the consumer seeking higher demand. Therefore, it is not required to increase the supply limit at 11 KV voltage level.

#### **Commission's view**

The Commission noted the stakeholder's submission and response of the petitioner.

#### **15. Frequent Changes of CTs due to narrow band for contract demand**

Rationalize and widen the CT ratio band to avert changing the CTs for relatively minor increase/decrease in load.

#### **Response of DISCOMs**

CT ratio in case of HT consumer is decided on the basis of demand contracted with DISCOM and voltage level at which it is being supplied. CT operates accurately, as per the accuracy defined in the relevant IS, within certain percentage range of rated capacity. For accurate measurement of the consumption, it is highly required for the DISCOM that the CT functions accurately. Accordingly, DISCOM used to provide or inform the consumer to purchase CTs of appropriate ratio according to contract demand of relevant consumer.

#### **Commission's view**

The submission of the stakeholder is not related to tariff.

#### **16. Non submission of Category-wise, voltage-wise cost-to-serve data**

Some stakeholders have pointed out that category-wise and voltage level-wise cost- to- serve and the progress in respect of reducing cross subsidisation are not reported. It is not enough to consider pooled or average cost of supply. Irrespective of adoption of tariff, the Commission is requested to call for this information.





### **Response of DISCOMs**

The petitioner stated that it is in the process of finalizing the cost to serve report for FY 2015-16 and shall submit to the Commission shortly.

### **Commission's view**

The petitioner submitted the cost to serve report on 16<sup>th</sup> February, 2017. The Commission would examine the report at appropriate time.

### **17. Projection of Available, Dispatch and Trading units**

Based on the past trading volume trend of GUVNL, the projected energy requirement for trading may be finalized.

### **Response of DISCOMs**

The Petitioner has submitted that the sale of surplus power depends on (i) availability of surplus power after meeting power requirement of DISCOMs (ii) overall power position in the country, and (iii) paying capacity of other distribution licensees in the country. Based on past trend and taking into account likely future power scenario in the country, the Petitioner has proposed sale of surplus power at 1500 MUs per annum. The Petitioner is also making sincere efforts to increase the quantum of sale of surplus power in order to reduce overall power purchase cost of DISCOMs.

Regarding the difference between the available MUs and dispatchable MUs, the Petitioner has submitted that available MUs are estimated based on the long term tied up capacity whereas the dispatchable MUs are estimated based on estimated power requirement of the consumers considering historical consumption trend.

### **Commission's view**

The Commission is in agreement with the Petitioner's response. Based on historical trading trends and practical limitations as stated by the petitioner, the Commission has projected traded MUs at GUVNL level.



## **18. Review of PPA to save fixed costs liability**

Revisiting/ reviewing of existing PPAs to reduce overall fixed cost and surrendering share of GUVNL where power purchase cost is higher.

### **Response of DISCOMs**

The Petitioner submitted that the PPAs are entered into for long term agreeing to various terms and conditions by the parties for supply and purchase of power including modality for payment of fixed cost. These PPAs are capacity based bilateral contracts and fixed cost is to be paid based on availability of stations. There may be less power requirement from certain generating stations but during the exigency situation power from these generating stations may be required at their fullest capacity. However, GUVNL has been making all efforts to review the contracts in order to reduce fixed cost liability. Further, GUVNL is not extending terms of PPAs as and when its term gets completed.

### **Commission's view**

The Commission has noted the response.

## **19. Power purchase from GSECL stations**

Under the captioned subject stakeholder has raised the issue of Higher Power cost and opined to consider fixed and variable cost as proposed by GSECL in its petition for estimating Discoms power purchase cost.

### **Response of DISCOMs**

The Petitioner submitted that in terms of GERC MYT Regulations, tariff (including payment of fixed cost based on availability etc.) for GSECL power plants is subject to determination by GERC in a prudent manner after hearing all the stakeholders on the petition to be filed by GSECL

As regards considering the fixed and variable costs as proposed by GSECL in its petition for estimating DISCOMs' power purchase cost, it is to submit that in the petitions, DISCOMs have already requested the Commission to consider power purchase cost as approved by the Commission in the GSECL petition.



### **Commission's view**

The Commission has accepted the response of the Petitioner.

### **20. Differences in variable charge for upcoming Central generating stations**

The Petitioner has taken different variable costs for new NTPC power projects such as Rs. 2.50/Unit for Mauda Stage-2, Rs. 1.50/Unit for Khargaon, Rs. 2.38/Unit for Kakrapar, which is objectionable.

### **Response of DISCOMs**

The Petitioner has submitted that the variable cost for proposed generating stations of NTPC and NPC is taken based on the cost indicated by various sources like NTPC, CEA & MoU executed with NPC etc. In any case, tariff for purchase of power from such stations shall be paid in accordance with tariff determined by CERC and DAE.

### **Commission's view**

The Commission agrees with the Petitioner's response.

### **21. Renewable power procurement**

Planning for Renewable power purchase for meeting RPO during control period and Cost of renewable power purchase considered in the petition for MYT period (i.e. Rs. 4.50/Unit for Solar, Rs. 4.19/Unit for wind and Rs. 6.00/Unit for other Renewable Power Purchase), have not been clearly justified in the petition.

### **Response of DISCOMs**

Regarding planning for Renewable power purchase for meeting RPO during control period, the Petitioner has submitted that since the RPO Target has yet to be defined by the Commission for FY 2017-18 onwards, for projection purposes RPO trajectory has been assumed with gradual increase in each year taking into consideration various directives from MoP, MNRE & NTP amendments etc.



However, GUVNL/ DISCOMs have proposed to fulfil the RPO obligation through procurement of renewable power during each year of the control period as approved by the Commission for the Control Period.

### **Commission's view**

The Commission has noted the objection and response of the Petitioner.

## **22. Reflection of decrease in fuel price in the petition**

The stakeholder stated that the present tariff petitions by discoms do not reflect the recent changes in fuel prices.

### **Response of DISCOMs**

The petitioner stated that ARR and Tariff Petition is filed following the applicable GERC Multi-Year Tariff Regulations, and directions issued by the Commission from time to time.

Regarding variation in the fuel price it is to submit that increase or decrease in Power Purchase cost on account of variation in fuel price is adjusted in consumer's bills through FPPPA charges on quarterly basis.

### **Commission's view**

The Commission noted that the variation in fuel price is reflected in FPPPA charges and the same is being passed on to the consumers. FPPPA calculations submitted by the utilities are duly examined and after detailed scrutiny, the same is approved with or without reduction.

## **23. Levy of electricity duty on demand charges**

### **Response of DISCOMs**

The Petitioner has submitted that Electricity Duty is being levied as per the provisions of the Electricity Duty Act. The Act provides to levy ED as specific percentage of consumption charge from respective consumers. Since consumption charge includes both; Demand Charge as well as Energy Charge, ED is levied on both these charges.



### **Commission's view**

The Electricity duty is levied as determined by the State Government and it is outside of the jurisdiction of the Commission.

### **24. Trading income**

The Petitioner has considered the trading income at Rs. 0.50/unit in excess of variable cost but has to pay entire fixed cost corresponding to those units.

### **Response of DISCOMs**

The Petitioner has submitted that it has entered into long term power purchase agreements with various generating stations to meet the requirement of DISCOMs. Surplus power is sold after meeting the requirement of consumers of DISCOMs. The power is sold when the revenue from sale of power is higher than incremental cost of generation so that overall power purchase cost is reduced. Therefore, sale of power at Rs.0.5/unit higher than variable cost will contribute towards reduction in overall power purchase cost for the consumers.

### **Commission's view**

The Commission has noted the response of the Petitioner and accepts the same.

### **25. Installation of meters on unmetered Agricultural Connections**

The objector has claimed that the Petitioners have failed to install meters in agriculture sector where more than 55% connections are paying on BHP basis. It further requests the Commission to direct all four Petitioners to submit action plan to install meters in phased manner within next two years.

### **Response of DISCOMs**

The Petitioner has submitted that since 10.10.2000, no new agricultural connection is released without meter. The Petitioner has also stated that it replaces the old electromechanical meters with the Electronic/ Static meter to increase the efficiency, which is in lines with the provisions of CEA Regulations. However, for providing meter to existing un-metered agricultural connections



there is fierce resistance from farmers, which is a concerned area for the DISCOMs. Further, at many of the places neither appropriate room nor place is available for meter installation.

#### **Commission's view**

The Commission has noted the objection and response of the Petitioner as mentioned by the Petitioner, no new agricultural connection is released without meter. DISCOMs may complete the task by educating the unmetered consumers to accept the metering of their connections. The Consumer organization may also take a lead in this regard and convince the unmetered agricultural consumers to accept the metering of their connections.

#### **26. Apportionment of GUVNL profit for FY 2015-16**

Annual accounts of GUVNL shows profit of Rs. 102 Crores. GUVNL is part of Petitioner Companies and its cost is loaded in the power purchase cost scheme. Therefore, profit of GUVNL is to be deducted from total power purchase cost.

#### **Response of DISCOMs**

The petitioner has not considered the apportionment of GUVNL profit in its petition.

#### **Commission's view**

The Commission has apportioned the profit of GUVNL amongst the 4 GUVNL DISCOMs in proportion to their power purchase from GUVNL and the ARR of the Discoms is reduced to that extent, as being done every year.

#### **27. Bad debts not to be included in the ARR**

#### **Response of DISCOMs**

The Petitioner has mentioned that various measures are taken for recovery of arrears viz. disconnection, recovery through civil suits, arranging LokAdalats etc. After disconnection, if the consumer does not turn up for payment, the connection is treated as permanently disconnected Consumer (PDC). Arrears of such PDC consumers are transferred to bad debts. Every year some amount from consumers, which seems to be non-recoverable, is charged in P&L of the Company



under the head of other debits for the respective year. Accordingly, provisions are made by the Company in FY 2015-16 and same is proposed for recovery in True up petition as controllable in line with MYT Regulations, 2011.

Further, the amount settled through Lok Adalat, order received from any of the judicial forums etc. or amount which is otherwise not recovered even after completing the process/ efforts, the same is written off.

### **Commission's view**

The Commission has taken necessary actions by disallowing the Delayed Payment Charges (DPC) written off by the Discoms in the best interest of the consumers.

### **28. Demand Charges for HT Consumers**

The objector has raised issue of the high demand charges stating that the demand charges go as high as Rs. 2.07 per unit whereas generation fixed cost for the Companies is on lower side may be around Rs. 1.40 per unit as per the petition.

### **Response of DISCOMs**

The Petitioner has submitted that it is the basic commercial principle for any organization to recover its fixed costs through recovery of fixed charges. However with the present tariff structure, part of fixed cost is recovered through energy charges. Even with the existing rate of Demand Charges, the fixed cost recovery from HTP-I consumer's works out to 46.48 % of the fixed cost attributable to HT consumers and remaining 53.52% is still being recovered through energy charges.

### **Commission's view**

In the past, DISCOMs have proposed a significant increase in demand charge in order to compensate for the fixed cost incurred by them. However, the Commission is of the view that demand charge should not be increased beyond a certain limit in order to keep the impact of tariff hike at reasonable level for the consumers having lower consumption.



## **29. Night Time Concession charges**

The night hour charges rebate is given as 40 paise to all units used during night hours i.e. from 10.00 pm to 6.00 am next day. For HTP IV consumer the energy charges are Rs. 2.25 per unit, whereas the same for HTP I consumer is Rs. 4.00 to 4.30 less Rs. 0.40 rebate i.e. Rs.3.60 to 3.90. This creates a disparity between similar production units.

### **Response of DISCOMs**

The Petitioner has clarified that the HTP IV consumers are not allowed to consume during day time and hence, DISCOMs are not required to manage power supply for such consumers. Whereas, HTP I category consumers are 24 hours' consumers for which DISCOMs have to arrange power supply for the entire 24 hours. Thus, fundamentally, both the consumer categories are operating on different premise and in no way are comparable.

### **Commission's view**

The Commission has agreed with the Petitioner.

## **30. Attempts to Discourage Open Access Users**

The existing tariff structure is one more of the many deliberate moves/attempts to deter/discourage the Open Access users from buying power from other sources.

### **Response of DISCOMs**

The petitioner submitted as under:

#### **i. Deemed Open Access separate tariff category**

No such separate tariff category is proposed in this or earlier tariff proposals since the objective of Open Access consumer is to purchase power from sources other than DISCOMs.

#### **ii. Imposing unlawful and arbitrary conditions through the undertakings by using utility consent**





The undertaking taken by the DISCOM is as per the order of the Commission and to ensure safety of grid and for load management purpose. It is inevitable to manage load properly to ensure grid security at any point of time.

**iii. Demanding additional surcharge with dubious data**

The additional surcharge is leviable as per Section 42(4) of EA 2003 after due verification by the GERC.

**iv. Restriction of Open Access up to contract demand**

Short term open access is allowed within the available margin in the network.

**v. Consent denial – Threatening notices for variations:** Essence of “Undertaking” has to be followed in true spirit.

The Commission has already decided and issued the order in regards to scheduling and drawal of load by open access consumers in Petition Nos. 1325 and 1327/2013.

**Commission’s view**

It is required to implement ‘Open Access’ mechanism in accordance with the GERC Regulations in force from time to time.

**31. True-up & revenue gap for FY 2015-16**

The four Petitioners have incurred losses in 2015-16 where total revenue gap has been more than Rs. 1000 crores. PGVCL has performed worst followed by UGVCL while other two Petitioners have performed better compared to Petitioners No. 1 and 4. The respondent objects to approval of these losses which could have been reduced with better performance. The Respondent requests Commission to reject these revenue gaps and direct all Petitioners to fill these gaps by improving their performance. The Electricity Act also mandates that inefficiencies of Petitioners should not be transferred to the consumers.



### **Response of DISCOMs**

The True up gap shown in the petition is worked out based on the GERC MYT Regulations, 2011. The gap does not necessarily reflect the poor or better performance of a utility. The Gap worked out is basically the difference between projected expenses/revenue at the time of MYT/MTR and actual expenses/revenue at the time of truing up.

### **Commission's view**

The Commission reviewed the submissions of the petitioner and approved surplus/(gap) as per GERC MYT Regulations 2011.

### **32. Extra ordinary items**

All four petitioners have spent significant amount under head "Extra Ordinary Items" without providing details under various heads. The Respondent strongly objects to these expenses which are spent without approval from Commission. The Respondent also demands details of these expenses and reasons for spending this amount.

### **Response of DISCOMs**

The petitioner has stated that losses on account of natural disaster such as fire, cyclone etc. are being considered under extra ordinary items.

### **Commission's view**

The Commission reviewed the expenses incurred under extra ordinary items and approved the same as per GERC MYT Regulations, 2011 & 2016.

### **33. Power Supply Failure**

The discoms are not addressing power supply related issues in a timely manner.

### **Response of DISCOMs**

The Petitioner carries out regular maintenance of its network. The complaints are generally being addressed well within time period stipulated in the relevant Regulations.



### **Commission's view**

The issue is not related to tariff.

### **34. Non Delivery of Bills**

Bills are not being delivered timely to all consumers.

### **Response of DISCOMs**

Bills are being delivered regularly to all the consumers at specific time interval. An intimation is also being sent through SMS if consumers have submitted the requisite details to the Company. Consumers can see their bills on Company's website and download it for free if consumer is registered on website.

### **Commission's view**

The issue is not related to tariff.

### **35. Profit making company**

The petitioner is a profit making company and profits have increased within three years which is beyond the reasonable limits despite of high fabricated expenditure. The petitioner has tried to get relaxation in the norms of controllable elements and tried to get normative values even the value achieved less than the normative prescribed in the Regulations.

### **Response of DISCOMs**

As per MYT Regulation, 14% Return on Equity is allowed to the Licensee/ Generators to generate internal resources for capacity building. The Financial Institutes / Banks are allowing the debt only to the extent of 70 to 80% of the project cost and balance has to be arranged by Licensee / Generator from its own resources. Therefore, the profit earned by Licensee is as envisaged in the Electricity Act 2003 and Regulations of the Commission.



### **Commission's view**

The Commission noted the query raised by the stakeholders and responses provided by the petitioner. Return on equity is approved as per GERC MYT Regulations.

### **36. Petition for determination of ARR for FY 2016-17 to FY 2020-21 and Tariff for FY 2017 - 18**

The petitions of UGVCL, DGVCL, MGVCL and PGVCL as petitioners and GUVNL as Co-Petitioner is not maintainable and not admissible as they are in gross violation of Preamble of the Electricity Act and relevant guidelines under which it is submitted.

### **Response of DISCOMs**

ARR and Tariff Petition is filed following the Multi Year Tariff Regulations, 2016 and directions issued by the Commission from time to time. As regards determination of final ARR for FY 2016-17 it is to submit that GERC has by order dated 2<sup>nd</sup> December, 2015 in the Petition No. 1534/2015 decided that

... "We decide that the approved ARR of FY 2015-16 of the licensees / generating companies concerned be considered as provisional ARR of the licensees / generating companies for FY 2016-17. We also decide that the licensees / generating companies shall file the ARR for FY 2016-17 based on the MYT Regulations, for FY 2016-17 to FY 2020-21 and the true up for the same shall also be governed as per the new MYT Regulations".

Accordingly, petition is filed for determination of final ARR for FY 2016-17.

### **Commission's view**

ARR and tariff petitions have been filed as per GERC MYT Regulations, 2016 and the relevant orders of the Commission.

### **37. Procurement of Power at Competitive rate**

The stakeholder stated that the present power procurement mechanism doesn't ensure procurement of power at a competitive price



### **Response of DISCOMs**

GUVNL has tied up power on long term basis to fulfill the requirement of its four subsidiary Discoms. Further, Intra-Stat ABT has been implemented in the State w.e.f. 5.4.2010. In accordance with the provisions of Intra-State ABT Order of the Commission, power is procured on real time basis following the principle of Merit Order irrespective of ownership of generators whereby cheaper power is scheduled first till the demand of Discoms is met.

Further, GUVNL trades the eventual surplus power and proceeds through trading of surplus power are being passed on to the Consumers of its subsidiary Distribution Companies.

### **Commission's view**

The Commission noted response of the petitioner and accepted the same.

### **38. Transmission and Distribution Loss**

It is pertinent to mention here that even the "Committee on Restructuring of APDRP has recommended that loss reduction could be 1 % per year when loss level of the system is below 20%.The Commission is requested to consider the loss level based on this recommendations for consideration of Energy Requirement.

### **Response of DISCOMs**

Transmission and Distribution Loss is an inherent phenomenon in the Electricity Business. It can be reduced gradually but cannot be eliminated at all.

For the Distribution Company, Distribution loss is a controllable factor and treatment for the deviation is given accordingly while computing the revenue gap for FY 2015-16. Company makes all efforts for reduction of Distribution losses and endeavors to achieve the Loss reduction trajectory as approved by the Commission.



### **Commission's view**

The Commission considers loss reduction as a major area of concern and accordingly approves target for the distribution companies for each year. However, this being a continuous activity, DISCOMs shall put in sustained and concerted efforts to reduce the losses to target level.

### **39. Determination of sale price of power for Discoms**

GUVNL determines sale price of power for Discoms in such a way that the ultimate tariff for the consumers remain same in the State, This is against the principle of natural justice and MYT Regulations.

### **Response of DISCOMs**

It is humbly submitted that consumer mix and load profile of consumers in different companies are different and it varies from hour to hour. Accordingly, the GERC through MYT order dated 6<sup>th</sup> September 2011 has approved the concept of Bulk Supply Tariff (BST) for the Control Period from FY 2011-12 to 2015-16 for allocation of power purchase cost by GUVNL to its subsidiary Discoms. As per the concept of BST as approved by Commission, the power purchase cost is allocated to Discom based on their consumer mix. The concept of BST was approved by the Commission after carrying out detailed hearing and submissions in order to keep the retail tariff uniform across the State.

### **Commission's view**

The Commission noted the response of the petitioner and accepted the same.

### **40. Multiple Tariff Rates and Fixed Charges of Agricultural Consumers**

Some of the Stakeholders stated that at present multiple tariff rates are applicable for same purpose of irrigation. Further they have requested Commission to abolish fixed charges for Agricultural Consumers.



### **Response of DISCOMs**

The tariff for agricultural consumers is determined by the Commission from time to time. There are different types of agricultural consumers like for unmetered consumers- BHP based tariff is applicable, similarly there is different tariff applicable for those consumers who have switched from unmetered connections to metered connections in accordance with the incentive scheme of the State Government. Further, for normal metered connections separate tariff is determined by the Commission and for connections released under Tatkal scheme separate tariff is applicable.

At present the recovery of Discom from fixed charges is 29.03% of total fixed cost of Discom, hence it is not desirable to give relaxation in fixed charges.

### **Commission's view**

In view of two type of Agricultural connections viz. unmetered and metered, two types of tariff are determined by the Commission. Apart from this, because of incentive scheme for the switching from unmetered connections to metered connections and Tatkal scheme as well as differential subsidy for the small and large farmers, multiple tariff exists. Further, as explained by the Petitioner, it is not desirable to abolish fixed Charges.

### **41. Penalty Charges for excess drawal of HT consumers**

The stakeholder represented that the tariff rates for excess drawal by HT consumers should be on % basis and linked to normal demand charges instead of flat rate.

### **Response of DISCOMs**

Suggestion to link the excess demand charges to the normal demand charges based on its contract demand is not logical as any consumers using load excess to its contract demand causes the same effect on the Distribution System irrespective of it's contract demand, therefore excess demand charges should not be linked with normal demand charges.

### **Commission's View**

The response of the petitioner is self-explanatory.



### **3.3 Issues Pertaining to UGVCL**

#### **1. Expenses under the head of Extraordinary Items**

The stakeholders have alleged that the DISCOMs have spent large amount under “Extra Ordinary Items” without providing details under various heads. The stakeholders have demanded the details of these expenses and reasons for such unwarranted expenses.

##### **Response of DISCOMs**

UGVCL booked Rs. 14.75 Crores of expenditure under the head “Extra-Ordinary Item” due to losses on account of flood, cyclone, fire etc.

##### **Commission’s view**

The Commission has observed that as per the annual accounts the actual amount spent under extraordinary item is Rs. 14.75 Crore.

#### **2. Non transparent submissions**

The ARR and annual financial report are not transparent.

##### **Response of DISCOMs**

The Petitioner has submitted that the sales figures showed in Table 7 and in Table 9 of the petition are for different purposes. In Table No. 7, the Petitioner has shown comparison of category wise sale approved by the Commission in the Mid Term Review order vis-à-vis actual category wise sales for FY 2015-16. The total sales figure of 17729.57 MUs showed by the Petitioner in the Note 41 (i) and Net power purchases unit of 20508.88 MUs showed by the Petitioner in the Note 41 (ii) of the Audited Annual Accounts of the Company for 2015-16 contains Deviation Settlement Mechanism Charges (UI) and Sale to GUVNL (STOA). Whereas the sales figures showed at Sr. No. 1 of the Table 9 of the petition is to compare the energy requirement for retail sale to its consumers at approved Transmission and Distribution Loss level vis-à-vis- energy requirement for sale to its consumers at actual Transmission and Distribution Losses.

##### **Commission’s view**

The response of the petitioner is self-explanatory.





### **3. Non accounting of subsidy received and due**

The stakeholders have alleged that the Petitioner is not showing amount received for agriculture category on any head and source clearly, the assessed amount per unit, with addition of Net subsidy/ unit and FPPPA. It is not understood why the Petitioner has not disclosed Agriculture Category arrears.

#### **Response of DISCOMs**

The Petitioner has stated that the FPPPA charges payable by Agriculture consumers are not recovered from the Agriculture consumers but it is being compensated by State Government. Revenue received from Agriculture consumers is mentioned at Note 21 of the Annual Accounts of UGVCL for FY 2015 – 16 which is inclusive of Rs. 1221.06 Crores received towards FPPPA and Rs. 597.18 Crores tariff compensation for FY 2015-16.

- Revenue from Agricultural Consumers - Rs. 484.54 Crores.
- Revenue from Tariff Compensation Subsidy - Rs. 597.18 Crores.
- Revenue from FPPPA Subsidy - Rs. 1221.06 Crores.
- Total Revenue from Irrigation/ Agriculture - Rs. 2302.78 Crores.

Similarly, Subsidy received from the State Government towards the Water Works connections is also mentioned at Note 21 of the Annual Accounts of the Petitioner for FY 2015-16 which is inclusive of Rs. 184.64 Crores received towards Water Works subsidy for FY 2015-16.

The Petitioner has also clarified that the FPPPA subsidy received from State Government and subsidy for the Water Works connections have been considered while calculation Revenue from Sale Of Power for respective category of consumers both in Annual Accounts of the Company and also in the True up proposal.

#### **Commission's view**

The Commission finds the Petitioner's response satisfactory.



#### **4. Difference in revenue from sale of power**

Annual revenue as per Table 34 of True up 2015-16 proposal is Rs. 8714. Cr. as per Profit and loss statement is Rs. 8971.88 Cr. The amount of Rs. 257.88 Cr. is shown less in True up proposal.

#### **Response of DISCOMs**

The Petitioner has submitted that the revenue in annual accounts includes revenue from sale of power to GUVNL and DSM charges, besides revenue from sale to different consumer categories as per Accounting practice whereas in the ARR, net power purchase cost is shown after reducing revenue of surplus power as per requirement of ARR. Netting of the same heads i.e. revenue from sale of power to GUVNL and DSM Charges have been done and they have been reduced from total power purchase cost so the amounts of revenue from annual accounts and shown in petition is not same.

Also the head “Other Income” is classified under the head of non-tariff income in the petition and the same has been reduced from total ARR rather than including it in the revenue. Therefore, there is no error in the petition but presentation is different as per Accounting Practice and requirement as per MYT Regulations and the same is compared with annual accounts.

#### **Commission’s view**

The response of the Petitioner is self-explanatory.



## 4 Truing up of FY 2015-16

UGVCL, in its submission for True-up of FY 2015-16, has furnished details of the actual energy sales, expenditure and revenue for FY 2015-16, based on the audited annual accounts for FY 2015-16. The licensee has stated that the truing up for FY 2015-16 is based on the comparison of the actual performance of the FY 2015-16 with the approved aggregate revenue requirement for FY 2015-16 in the Mid-term Review Order dated 29<sup>th</sup> April, 2014 to arrive at the Gains/(Losses), as per the GERC (MYT) Regulations.

The Commission has analysed the components of the actual energy sales, expenses, revenue and computed Gains/(Losses) in the process of truing up for FY 2015-16.

### 4.1 Energy sales

#### Petitioner's submission

The petitioner has submitted the category-wise actual energy sales for FY 2015-16. The details are given in the Table below:

**Table 4.1: Category-wise actual sales for FY 2015-16**

(MUs)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16
A	LT Consumers		
1	RGP	1949.00	1881.34
2	GLP	41.00	41.04
3	Non-RGP & LTMD	1714.00	1557.30
4	Public Water Works	618.00	609.99
5	Agriculture - Unmetered	6094.00	6218.55
6	Agriculture – metered	1900.00	2329.95
7	Public Lighting	49.00	52.11
	<b>LT Total (A)</b>	<b>12365.00</b>	<b>12690.27</b>
B	HT Consumers		
8	Industrial HT	4461.00	4550.00
9	Railway Traction	22.00	13.96
	<b>HT Total (A)</b>	<b>4483.00</b>	<b>4563.95</b>
	<b>Grand Total (A + B)</b>	<b>16848.00</b>	<b>17254.22</b>



### Commission's Analysis

The Commission, in the MTR order, dated 29<sup>th</sup> April, 2014, had approved the energy sales of 16848 MUs for FY 2015-16. As against the above, UGVCL has submitted the actual sales of 17254.22 MUs, which is an increase of 2% over the approved MTR figures.

As can be observed from the Table above, the actual energy sales of RGP (Residential), Railway Traction, Non-RGP and LTMD categories are lower than those approved by the Commission for FY 2015-16 in the MTR order. However, there has been an increase in overall agricultural consumption from what has been approved in the MTR Order. While unmetered agricultural consumption registered an increase of 2%, the metered agricultural consumption has grown by 23% over the approved MTR sales figures.

Overall, the actual energy sales of UGVCL are higher by 406 MUs, against those approved in the MTR Order. As energy sales depends upon factors, which are related to income level and overall growth of the economy, it remains largely uncontrollable in nature.

The Commission approves the energy sales of 17254.22 MUs as detailed in the Table below:

**Table 4.2: Energy sales approved in truing up for FY 2015-16**

(MUs)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Approved in truing up for 2015-16
<b>A</b>	<b>LT Consumers</b>			
	RGP	1949.00	1881.34	1881.34
	GLP	41.00	41.04	41.04
	Non-RGP & LTMD	1714.00	1557.30	1557.30
	Public Water Works	618.00	609.99	609.99
	Agriculture - Unmetered	6094.00	6218.55	6218.55
	Agriculture – metered	1900.00	2329.95	2329.95
	Public Lighting	49.00	52.11	52.11
	<b>LT Total (A)</b>	<b>12365.00</b>	<b>12690.27</b>	<b>12690.27</b>
<b>B</b>	<b>HT Consumers</b>			
	Industrial HT	4461.00	4550.00	4550.00
	Railway Traction	22.00	13.96	13.96
	<b>HT Total (B)</b>	<b>4483.00</b>	<b>4563.95</b>	<b>4563.95</b>



Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Approved in truing up for 2015-16
	<b>Grand Total (A + B)</b>	<b>16848.00</b>	<b>17254.22</b>	<b>17254.22</b>

## 4.2 Distribution losses

### Petitioner's submission

The petitioner has submitted that the actual distribution losses for FY 2015-16 are 11.07%, as against the approved level of 12% in the MTR order for FY 2015-16. The Table below highlights the comparison of actual distribution losses of UGVCL against that approved by the Commission vide its Tariff Order.

**Table 4.3: Distribution Losses**

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16
1	Distribution Losses	12.00%	11.07%

It is submitted by the petitioner that as per MYT Regulations, the distribution losses need to be treated as controllable and any gain or loss has to be dealt with, accordingly, as per the provisions of MYT Regulations.

### Commission's Analysis

UGVCL has contended that the actual distribution losses are 11.07% for FY 2015-16, as against 12% approved in the MTR order for FY 2015-16.

However, the Commission observed that transmission loss considered as percentage at GETCO periphery, has been higher in case of UGVCL, as compared with other GUVNL discoms. The Table below compares transmission losses at GETCO periphery of all 4 GUVNL discoms.



**Table 4.4: Comparison of transmission loss at GETCO periphery for GUVNL discoms for FY 2015-16**

Sr. No.	Name of the utility	Transmission loss at GETCO periphery (MUs)	Total energy required at GETCO periphery (MUs)	Transmission loss as % of energy required at GETCO periphery
1	UGVCL	770	20,173	3.82%
2	MGVCL	381	10199	3.74%
3	DGVCL	704	18771	3.75%
4	PGVCL	1,094	29,245	3.74%

As can be observed from the Table above, transmission loss considered by UGVCL is higher as compared to other GUVNL discoms. Moreover, as a reply to the queries asked by the Commission, UGVCL replied (vide email, dated 23<sup>rd</sup> January, 2017) that actual transmission loss level to be considered as 3.7564%. However, it is to be noted that the loss level was computed on total energy requirements, instead of energy requirement at GETCO periphery.

Considering the above, the Commission considers transmission loss at GETCO periphery as 3.76% for UGVCL to work out the overall loss level for FY 2015-16.

**Table 4.5: Revised distribution loss computation for UGVCL for true up of FY 2015-16**

(MUs)

Sr. No.	Particular	2015-16
1	Total Energy Requirement at PGCIL periphery	20,508.88
2	Pooled losses in PGCIL System	336.12
3	Total Energy to be input to Transmission System (GETCO Periphery)	20,172.76
4	Transmission Losses	3.756%
5	Transmission Losses	757.77
<b>6</b>	<b>Energy Requirement at Discom periphery</b>	<b>19,414.99</b>
7	Total Energy Sales	17,254.22
8	Distribution loss	2,160.77
<b>9</b>	<b>Distribution loss (%)</b>	<b>11.13%</b>



The Commission approves the distribution losses of 11.13% as against 11.07% claimed by UGVCL for truing up of FY 2015-16. The loss level of 12%, approved in the MTR order for FY 2015-16, has been compared with the revised actual distribution loss of 11.13% to determine the gain/(loss) on account of distribution loss for truing up of FY 2015-16.

**Table 4.6: Distribution losses approved for truing up for FY 2015-16**

Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	2015-16 (Approved for true up for gain/ (loss) computation)	2015-16 (Considered in True-up)
Distribution losses	12%	11.07%	11.13%	12%

### 4.3 Energy requirement

#### Petitioner's submission

Based on the energy sales for FY 2015-16 and the actual distribution losses for FY 2015-16, the petitioner has submitted the energy requirement for FY 2015-16, as given in the Table below.

**Table 4.7: Energy requirement and Energy balance as submitted by UGVCL for FY 2015-16**

Sr. No.	Particulars	Unit	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16
1	Energy Sales	MUs	16848	17254
2	Distribution Losses	MUs	2297	2148
		%	12.00%	11.07%
3	Energy Requirement	MUs	19145	19402
4	Transmission Losses	MUs	823	770
5	Total Energy to be input to Transmission System	MUs	19968	20173
6	Pooled Losses in PGCIL System	MUs	546	336
7	<b>Total Energy Requirement</b>	<b>MUs</b>	<b>20514</b>	<b>20509</b>

#### Commission's Analysis

The UGVCL has computed the energy requirement based on the distribution losses of 11.07% and actual energy sales of 17,254 MUs and transmission loss of 3.82%.



The Commission had approved the distribution losses of 12% and the transmission loss of 4.12%, as arrived by SLDC for FY 2015-16 in the MTR order, dated 29<sup>th</sup> April, 2014. Moreover the Commission has recomputed the transmission and distribution loss level for truing up of FY 2015-16 as described above.

Accordingly, the Commission considers transmission loss as 3.76% and distribution loss as 11.13% for UGVCL for FY 2015-16, as shown in the Table below. The Table also highlights the Commission's approval of the energy requirement of 20,509 MUs for truing up for FY 2015-16.

**Table 4.8: Energy requirement approved by the Commission for truing up for FY 2015-16**

Sr. No.	Particulars	Unit	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Approved in truing up for 2015-16
1	Energy sales	MUs	16,848	17,254	17,254
2	Distribution losses	MUs	2,297	2,148	2,161
		%	12.00%	11.07%	11.13%
3	Energy requirement	MUs	19,145	19,402	19415
4	Transmission losses	MUs	823	770	758
		%	4.12%	3.82%	3.76%
5	Total energy to be input to transmission system	MUs	19,968	20,173	20173
6	Pooled losses in PGCIL system	MUs	546	336	336
7	<b>Total energy requirement</b>	<b>MUs</b>	<b>20,514</b>	<b>20,509</b>	<b>20,509</b>

## 4.4 Power purchase cost

### Petitioner's submission

The petitioner has submitted that the company has been allotted share of generation capacities as per the scheme worked out by GUVNL.

UGVCL has submitted the actual power purchase cost during FY 2015-16, as shown below:





**Table 4.9: Power purchase cost claimed by UGVCL for FY 2015-16**

(Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16
Total power purchase cost	7,228.97	7,888.88

Power Purchase Cost given above is the net power purchase cost after considering the net UI/ DSM Charges Payable/receivable and the revenue from sale of power to GUVNL. UGVCL has submitted the breakup of actual power purchase cost during FY 2015-16, as shown in the Table below:

**Table 4.10: Power purchase cost submitted by UGVCL for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16
<b>A</b>	<b>Cost</b>		
1	Power Purchased from GUVNL		7,927.52
2	Power Purchased from CPP / Wind Farms/Solar		15.14
3	Power Purchased from Solar		23.53
4	UI/ DSM Charges		11.75
			<b>7,977.95</b>
<b>B</b>	<b>Income</b>		
1	Sale of Power to GUVNL		40.02
2	UI/ DSM Charges		49.05
	<b>Net Power Purchase Cost</b>	<b>7,228.97</b>	<b>7,888.88</b>

It is submitted by UGVCL that the variation in the power purchase cost approved by the Commission and the actual power purchase cost incurred is due to various reasons. These include change in the power purchase cost, change in quantum of power purchased, consequent changes in the transmission charges payable and change in cost allocation.

The quantum of power purchase depends upon sales during the year, as well as the losses in the system. The actual distribution losses in UGVCL distribution network have been lower than the approved level. However, the sales were higher, as compared to that approved by the



Commission and hence, the quantum of power purchased was higher than the approved quantum of power required.

The increase or reduction in quantum of power purchased and power purchase expense due to variation in distribution loss is a controllable factor, which would result in gains or losses under GERC (MYT) Regulations, 2011 and is dealt with accordingly.

As per the MYT Regulations, 2011 the Commission has categorised the variation in the price of fuel and/or price of power purchase according to the FPPPA formula approved by the Commission as an uncontrollable factor. Further, the Commission has also identified the variation in the number or mix of consumers or quantity of electricity sold to consumers as an uncontrollable factor. Thus the variation in the above factors affects the power purchase expenses and results into either a loss or gain. Accordingly, any gain or loss on this account is to be entirely passed on to the consumers as per the methodology approved by the Commission.

### Commission's Analysis

The Commission has examined the actual quantum of power purchased and the power purchase cost during the year FY 2015-16, based on the actual energy sales and the distribution losses submitted by UGVCL. The sales and the quantum of power purchase and the power purchase cost are as per the audited annual accounts for the FY 2015-16. The power purchase cost, as per the audited annual accounts for FY 2015-16, is Rs. 7888.88 Crore.

**Table 4.11: Power purchase cost as per the audited accounts for FY 2015-16**

(Rs. Crore)

Sr. No.	Particulars	Amount
1	Power Purchased from GUVNL	7,927.52
2	Power Purchased from CPP / Wind Farms/Solar	15.14
3	Power Purchased from Solar	23.53
4	UI/ DSM Charges	11.75
<b>5</b>	<b>Total Power Purchase</b>	<b>7,977.95</b>
6	Power sold to GUVNL (Income)	40.02
7	UI/ DSM Charges (Income)	49.05
<b>8</b>	<b>Net Power Purchase Cost (4-5-6)</b>	<b>7,888.88</b>



The Commission approves the power purchase cost of Rs. 7888.88 Crore for FY 2015-16 as per the audited annual accounts.

**Table 4.12: Power purchase cost approved by the Commission for truing up for FY 2015-16**  
 (Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Approved in truing up for 2015-16
Total power purchase cost	7,228.97	7,888.88	7,888.88

## 4.5 Gain / (loss) due to distribution losses

### Petitioner's Submission

UGVCL has claimed that there is gain of Rs. 72.06 Crore in the power purchase cost due to lower distribution loss as compared to approved distribution loss in the MTR Order. The gain is considered as controllable variation. The calculation of gain on account of lower distribution loss as submitted by UGVCL is shown in the Table below:

**Table 4.13: Gains/ (Losses) on account of distribution losses for FY 2015-16 as submitted by UGVCL**

Sr. No.	Particulars	Unit	FY 2015-16 (with Approved Distribution Losses)	2015-16 (with Actual Distribution Losses)
1	Energy Sales	MUs	17,254.22	17,254.22
2	Distribution Losses	MUs	2,352.85	2,148.14
		%	12.00%	11.07%
3	Energy Requirement	MUs	19,607.07	19,402.37
4	Saving due to Distribution Losses	MUs		204.70
5	Average Cost of Power Purchase	Rs. / kWh		3.52
6	<b>Gains/(Losses) Due to Distribution Losses</b>	<b>Rs. Crore</b>		<b>72.06</b>

### Commission's Analysis

The Commission has approved distribution loss at 12% for FY 2015-16 in the MTR order for FY 2015-16.



UGVCL has submitted that the actual distribution loss level for FY 2015-16 has been 11.07%, which is lower than the distribution losses, approved in the MTR order for FY 2015-16. However, as discussed in **Section 4.2**, the Commission has approved **11.13%** as actual distribution loss for truing up of FY 2015-16 accounts for UGVCL.

The total gains / (losses) on account of lower distribution loss are computed in the Table below:

**Table 4.14: Approved Gains/( losses) on account of distribution losses for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Unit	2015-16 (with approved distribution losses)	2015-16 (Submitted by UGVCL for true up)	2015-16 Approved for truing up
1	Energy Sales	MUs	17,254.22	17,254.22	17,254.22
2	Distribution Losses	MUs	2,352.85	2,148.14	2,160.77
		%	<b>12.00%</b>	<b>11.07%</b>	<b>11.13%</b>
3	Energy Requirement	MUs	19,607.07	19,402.37	19,414.99
4	Saving due to Distribution Losses	MUs		204.70	192.08
5	Average Power Purchase Cost	Rs./Unit		3.52	3.52
<b>6</b>	<b>Gain/(Loss) due to Dist. Losses</b>			<b>72.06</b>	<b>67.61</b>

The total gain on account of lower distribution losses, as submitted by UGVCL, is Rs. 72.06 Crore and as computed by the Commission, it is Rs. 67.61 Crore. The weighted average rate of power purchase is considered as approved by the Commission in MTR Order for the FY 2015-16. While computing the Gains/(Losses) due to change in distribution losses, the Commission has considered the distribution losses at 12% of actual energy requirement at Discom periphery to arrive at change in energy requirement and did not consider the transmission losses to factor the efficiency of distribution activities only.

The Commission considered change in power purchase cost as uncontrollable and attributable to the variation in cost and quantum of power due to variations in sales and transmission losses,



while variations in quantum of power due to distribution losses are considered as controllable. Accordingly, gains/losses computed on account of power purchase are shown in the Table below:

**Table 4.15: Approved gain / (loss) – power purchase expenses for truing up for FY 2015-16**

(Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Approved in truing up for 2015-16	Deviation + / (-)	Gains/(losses) due to controllable factors	Gains/(losses) due to uncontrollable factors
Total power purchase cost	7228.97	7888.88	(659.90)	67.61	(727.51)

## 4.6 Fixed charges

### 4.6.1 Operation and Maintenance (O&M) expenses for FY 2015-16

UGVCL has claimed O&M expenses of Rs 468.93 Crores, which is inclusive of employee cost of Rs. 433.82 Crores, repairs & maintenance expenses of Rs. 59.72 Crores and administration & general expenses of Rs. 69.53 Crores along with other debits, extraordinary items, net prior period expense/ (income) and other expenses capitalized against the approved O&M expense of Rs 343.12 Crores as per the details given in the Table below:

**Table 4.16: O&M expenses claimed in the truing up for FY 2015-16**

(Rs Crores)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Deviation
1	Employee Cost	373.28	433.82	(60.54)
2	Repairs & Maintenance Expenses	76.21	59.72	16.49
3	Administration & General Expenses	62.32	69.53	(7.21)
4	Other Debits	6.74	3.63	3.11
5	Extraordinary Items	0.57	14.75	(14.18)
6	Net Prior Period Expenses / (Income)	-	(0.35)	0.35
7	Other Expenses Capitalised	(176.00)	(112.18)	(63.82)
8	<b>Operation &amp; Maintenance Expenses</b>	<b>343.12</b>	<b>468.93</b>	<b>(125.81)</b>



### Petitioner's submission

UGVCL has compared the O&M expenses actually incurred during FY 2015-16 with the expenses approved by the Commission in the mid-term review (MTR) for FY 2015-16 and arrived at a net loss of Rs. 51.26 Crores on account of controllable factors and loss of Rs 74.54 Crores on account of uncontrollable factors.

**Table 4.17: O&M expenses and gains / losses claimed in the truing up for FY 2015-16 (Rs Crore)**

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for FY 2015-16	Gain/(Loss) due to controllable factor	Gain/(Loss) due to uncontrollable factor
1	Employee Expenses	373.28	433.82	(60.54)	-
2	Repair & Maintenance Expenses	76.21	59.72	16.49	-
3	Administration & General Expenses	62.32	69.53	(7.21)	-
4	Other Debits	6.74	3.63	-	3.11
5	Extraordinary Items	0.57	14.75	-	(14.18)
6	Net Prior Period Expenses / (Income)	-	(0.35)	-	0.35
7	Other Expenses Capitalised	(176.00)	(112.18)	-	(63.82)
8	<b>Total O&amp;M Expenses</b>	<b>343.12</b>	<b>468.93</b>	<b>(51.26)</b>	<b>(74.54)</b>

The component-wise O&M expenses are discussed in the following paragraphs.

#### 4.6.2 Employee cost

UGVCL has claimed Rs. 433.82 Crore towards actual employee cost in the truing up for FY 2015-16. The employee cost approved for FY 2015-16 in the MTR order of 29<sup>th</sup> April, 2014 and claimed by UGVCL in the truing up are as given in the Table below:



**Table 4.18: Employee cost claimed by UGVCL in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Employee Cost	373.28	433.82	(60.54)	-

### **Petitioner's submission**

UGVCL has submitted that the employee cost was incurred on the basis of the guidelines issued by the competent authorities like the State Government and that the entire expenditure estimated is a legitimate expenditure and any variation is purely beyond its control. Accordingly, UGVCL has estimated a loss of Rs. 60.54 Crores on account of controllable employee cost.

### **Commission's Analysis**

The UGVCL has compared the actual employee cost of Rs. 433.82 Crore incurred during FY 2015-16 with Rs. 373.28 Crore approved in the MTR order for FY 2015-16. The actual employee cost, as per the audited annual accounts for FY 2015-16, is Rs. 433.82 Crore. The increase could be attributed to inflationary factors, along with the provision made for 7<sup>th</sup> Pay Commission. It is to be noted that UGVCL's employee expenses include a provision of Rs. 29.77 Crores towards 7<sup>th</sup> pay Commission for the period from 1<sup>st</sup> January 2016 to 31<sup>st</sup> March 2016. As payment on this account are yet to be made, the Commission disallows this provision for employee expenses, to the extent of Rs. 29.77 Crore for the purpose of true up of 2015-16. However, as and when the actual expenses are incurred, the Commission would consider such claims, which would be accounted for during the true up of annual account of the respective year.

Therefore, the Commission considers Rs. 404.05 Crore as employee expenses for the purpose of true up of 2015-16 accounts. The Commission considers the employee cost as a controllable expense, which is in line with the MYT Regulations.

The Commission, accordingly, approves the employee cost at Rs. 404.05 Crore in the truing up for FY 2015-16.



**Table 4.19: Employee cost approved in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Approved in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Employee Cost	373.28	404.05	(30.77)	

### 4.6.3 Repairs & Maintenance (R&M) Expenses

UGVCL has claimed Rs. 59.72 Crore towards R&M expenses in the truing up for FY 2015-16. The R&M expenses approved for FY 2015-16 in the MTR order dated 29th April, 2014 and claimed by UGVCL in the truing up for FY 2015-16 are as given in the Table below:

**Table 4.20: R&M expenses claimed by UGVCL for the truing up for FY 2015-16**

(Rs. Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Repair & Maintenance Cost	76.21	59.72	16.49	-

### Petitioner's submission

UGVCL has submitted that the assets of UGVCL are old and require regular maintenance to ensure uninterrupted operations. It has been further submitted that UGVCL has been trying its best to ensure uninterrupted operations of the system by undertaking R&M activities which are uncontrollable in nature. UGVCL has estimated a gain of Rs. 16.49 Crore due to controllable factors.

### Commission's Analysis

The actual R&M expenses incurred during FY 2015-16 are Rs. 59.72 Crore, as per the audited annual accounts. The Commission has observed that R&M expenditure incurred by UGVCL is





lower than the amount approved in the MTR order by the Commission. The R&M expense is a controllable item of expenditure under the MYT Regulations, 2011.

The Commission, accepts the contention of UGVCL and accordingly approves the R&M expenses at Rs. 59.72 Crore in the truing up for FY 2015-16.

**Table 4.21: R&M expenses approved for the truing up for FY 2015-16**

(Rs. Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Approved in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Repairs & Maintenance Expenses	76.21	59.72	16.49	-

#### 4.6.4 Administration & General (A&G) expenses

UGVCL has claimed Rs. 69.53 Crore towards A&G expenses in the truing up for FY 2015-16. The A&G expenses approved for FY 2015-16 in the MTR order dated 29th April, 2014, and claimed by UGVCL in the truing up are as given in the Table below:

**Table 4.22: A&G expenses claimed by UGVCL in the truing up for FY 2015-16 (Rs Crore)**

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Administration & General Expenses	62.32	69.53	(7.21)	-

#### Petitioner's submission

UGVCL has submitted that the A&G expenses are categorised as controllable expenses in the MYT Regulations and the actual A&G expenses, when compared with the approved value, resulted in a loss of Rs. 7.21 Crore for FY 2015-16.



### Commission's Analysis

The Commission has considered A&G expenditure of Rs. 69.53 Crore as per annual accounts of FY 2015-16. The Commission observed that the actual A&G expense is higher than what has been approved in the MTR order for 2015-16 by Rs. 7.21 Crore.

The parameters impacting A&G expenses are controllable in nature, as specified in the MYT Regulations, 2011. The Commission, accordingly, considers Rs. 7.21 Crore as loss under A&G expenses, on account of controllable factor. **The Commission, accordingly, approves the A&G expenses at Rs. 69.53 Crore in the truing up for FY 2015-16.**

**Table 4.23: A&G expenses approved in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Administration & General Expenses	62.32	69.53	(7.21)	-

### 4.6.5 Other Debits

#### Petitioners' submission

UGVCL has claimed the actual other debits at Rs. 3.63 Crore in the truing up, as against Rs. 6.74 Crore approved in the MTR order dated 29th April, 2014 for FY 2015-16 as shown in the Table below.

**Table 4.24: Other debits as claimed by UGVCL in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Other Debits	6.74	3.63	-	3.11



### Commission's Analysis

The Commission observed other debits considered by UGVCL includes expenses for energy conservation, miscellaneous losses write off and loss on sale of fixed assets.

**The Commission approves the other debits at Rs. 3.63 Crore as uncontrollable expense in the truing up for FY 2015-16.**

**Table 4.25: Other debits approved in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Other Debits	6.74	3.63	-	3.11

### 4.6.6 Extraordinary items

UGVCL has claimed Rs. 14.75 Crore, which has been attributed to losses because of flood, cyclone etc., under extraordinary item in the truing up for FY 2015-16. The Commission approved Rs. 0.57 Crore under the head of extraordinary items in the MTR order, dated 29<sup>th</sup> April, 2014.

**Table 4.26: Extraordinary items as claimed by UGVCL in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Extraordinary items	0.57	14.75	-	(14.18)

### Commission's Analysis

The actual extraordinary items are Rs. 14.75 Crore, as per the audited annual accounts for FY 2015-16. The Commission approves the extraordinary items at Rs. 14.75 Crore, as per the audited accounts. **The Commission allows extraordinary items amounting to Rs. 14.75 Crore as an uncontrollable loss.**



**Table 4.27: Extraordinary items approved in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Approved in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Extraordinary items	0.57	14.75	-	(14.18)

#### 4.6.7 Net prior period expenses / (income)

UGVCL has claimed Rs. 0.35 Crore towards net prior period income in the truing up for FY 2015-16. The Commission did not approve any amount under the head of net prior period expenses/(income) in the MTR order, dated 29th April, 2014.

**Table 4.28: Net prior period expenses/ (income) as claimed by UGVCL in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Net prior period expenses/ (income)	0.00	(0.35)	-	0.35

#### Commission's Analysis

The actual net prior period income accounted for in the audited annual accounts are Rs. 0.35 Crore. The Commission, accordingly, approves the net prior period income of Rs. 0.35 Crore as uncontrollable item in the truing up for FY 2015-16.

**Table 4.29: Net prior period expenses/ (income) approved in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Approved in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Net prior period expenses/ (income)	0.00	(0.35)	-	0.35



#### 4.6.8 Other Expenses Capitalised

UGVCL has claimed the actual expenses capitalised at Rs. 112.18 Crore in the truing up for FY 2015-16, as against Rs. 176 Crore approved in the MTR order for the year FY 2015-16, dated 29<sup>th</sup> April, 2014.

**Table 4.30: Other expenses capitalized as claimed by UGVCL in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Other expenses capitalized	(176.00)	(112.18)		(63.82)

#### Commission's Analysis

The Commission has observed that the other expenses capitalised represent the capitalisation of employee cost and A&G expenses, as seen from the annual accounts for FY 2015-16. The actual other expenses capitalised is Rs. 112.18 Crore, as per the audited annual accounts for FY 2015-16. The Commission, accordingly, approves the other expenses capitalised at Rs. 112.18 Crore as uncontrollable expenses for FY 2015-16.

**Table 4.31: Other expenses capitalized approved in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Approved in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Other expenses capitalized	(176.00)	(112.18)	-	(63.82)

The total O&M expenses approved in the truing up for FY 2015-16 and the gains / (losses) considered due to controllable and uncontrollable factors are detailed in the Table below:



**Table 4.32: Approved O&M expenses and gains / loss in the truing up for FY 2015-16**

(Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Claimed in Truing up for 2015-16	Approved in Truing up for 2015-16	Deviation + / (-) (2-4)	Gains / (Losses) due to controllable factors	Gains / (Losses) due to uncontrollable factors
1	2	3	4	5	6	7
Employee cost	373.28	433.82	404.05	(30.77)	(30.77)	
Repairs & Maintenance Expenses	76.21	59.72	59.72	16.49	16.49	
Administration & General Expenses	62.32	69.53	69.53	(7.21)	(7.21)	
Other debits	6.74	3.63	3.63	3.11		3.11
Extraordinary items	0.57	14.75	14.75	(14.18)		(14.18)
Net prior period expenses / (income)	-	(0.35)	(0.35)	0.35		0.35
Other expenses capitalised	(176.00)	(112.18)	(112.18)	(63.82)		(63.82)
<b>Total O&amp;M expenditure</b>	<b>343.12</b>	<b>468.93</b>	<b>439.15</b>	<b>(96.03)</b>	<b>(21.49)</b>	<b>(74.54)</b>

#### 4.6.9 Capital expenditure, Capitalisation and Funding of CAPEX

UGVCL has furnished capital expenditure of Rs. 588.21 Crore in the truing up for FY 2015-16, as against Rs. 877.90 Crore considered in the MTR order for FY 2015-16. The details are as given in the Table below:

**Table 4.33: Capital expenditure claimed by UGVCL for FY 2015-16 (Rs Crore)**

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Deviation
A	Distribution Schemes			
	Normal Development Scheme	155.00	169.08	(14.08)
	System Improvement Scheme	125.00	25.62	99.38
	HVDS in selected sub-division	7.00	4.86	2.14
	Underground Cables	21.50	0.65	20.85
	Aerial Bunch Conductors	1.75	-	1.75



Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Deviation
	Others	-	0.60	(0.60)
	<b>Total</b>	<b>310.25</b>	<b>200.81</b>	<b>109.44</b>
B	Rural Electrification Schemes - Plan			
	TASP (Wells)	30.00	35.63	(5.63)
	Scheduled Caste Sub Plan (lighting)	3.00	2.24	0.76
	Electrification of Hutments	8.50	4.29	4.21
	Kutir Jyoti Scheme	0.75	0.39	0.36
	Sagarkhedu Sarvangi Vikas Yojana	4.00	4.59	(0.59)
	Dark Zone	200.00	132.15	67.85
	Solar Home light	-	1.05	(1.05)
	<b>Total</b>	<b>246.25</b>	<b>180.33</b>	<b>65.92</b>
C	Central Government Scheme - Plan			
	R-APDRP Part A	8.00	3.58	4.42
	BADP	7.00	-	7.00
	SCADA Part A	10.00	-	10.00
	SCADA Part B	26.00	33.13	(7.13)
	Smart Grid	25.00	-	25.00
	<b>Total</b>	<b>76.00</b>	<b>36.71</b>	<b>39.29</b>
D	Other Schemes (Non Plan)			
	RE (Tatkal)	-	9.75	(9.75)
	AG Normal (SPA)	105.00	70.76	34.24
	Energy Conservation	0.10	-	0.10
	<b>Total</b>	<b>105.10</b>	<b>80.51</b>	<b>24.59</b>
E	Other New Schemes			
	Automation and Computerization	1.60	0.67	0.93
	Civil Work/ New Building	21.00	53.31	(32.31)
	GIS in Cities	0.10	0.07	0.03
	Other Schemes (Earthing)	60.00	0.92	59.08
	Other Repairing Work / Civil Work	2.00	-	2.00
	New Furniture and Fixtures	2.00	4.56	(2.56)
	Vehicle	3.60	0.50	3.10



Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Deviation
	BoI GIDC	50.00	10.11	39.89
	DSM	-	0.82	(0.82)
	KHUSHI/HVDS	-	0.02	(0.02)
	DISS	-	18.60	(18.60)
	Solar Pump	-	0.26	(0.26)
	<b>Total</b>	<b>140.30</b>	<b>89.84</b>	<b>50.46</b>
<b>F</b>	<b>Capital Expenditure Total</b>	<b>877.90</b>	<b>588.21</b>	<b>289.69</b>

### Petitioner's submission

The UGVCL has submitted that the actual capital expenditure incurred during FY 2015-16 was Rs. 588.21 Crore, which is lower by Rs. 289.69 Crore than what was approved for FY 2015-16 in the MTR order.

### Commission's Analysis

The capital expenditure considered in MTR order for FY 2015-16 was Rs. 877.90 Crore. The actual capital expenditure incurred is Rs. 588.21 Crore, which is lower by Rs. 289.69 Crore than the CAPEX considered in the MTR order.

The Commission observes that UGVCL has incurred Rs. 169.08 Crores as against approved amount of Rs. 155.00 Crores under 'normal development scheme'. In replies to queries asked by the Commission regarding increase in capital expenditure, UGVCL submitted that such increase is due to addition of land cost paid towards purchase of land at Nani Akhol, Deesa, Rs. 1.91 Crore, purchase of land at Ambli, Ahmedabad, Rs. 43.96 Crore, and for processing fee for proposal of acquisition of land at Chandkheda, Rs. 0.03 Crore, amounting to Rs. 45.89 Crore in total. Further, UGVCL submitted that the land cost been approved by concern revenue authority, GoG.

Under 'RE and RE Non-plan Scheme', UGVCL submitted that release of agriculture Connection is a continuous process and it is governed by Government of Gujarat, and subject to the fund availability for such schemes. The company also mentioned that the targets for dark Zone & SPA schemes are also duly achieved as per revised targets. Amount of Rs. 70.76 Crores were spent





for electrifying 20580 wells under SPA scheme. Also 2320 nos. of wells are electrified in TASP Scheme at the cost of 35.63 Crores. Although the overall the amount spent has been lesser than the amount approved in the MTR order, the company has claimed to achieve the targets.

The Commission observed that UGVCL's actual capital expenditure has been lower than that has been approved in the MTR under system improvement, underground cables, dark zone and smart grid schemes.

Under system improvement scheme, UGVCL has been able to spend Rs. 25.62 Crore as against approved amount of 125 Crore. UGVCL cited reason of very high targets for releasing AG connections for underachievement under the scheme.

Under underground cabling, the company has been able to spend around Rs. 0.65 Crore as against Rs. 21. 50 Crore approved in the MTR order. The company has submitted that the work of underground cable is mainly done for GIDC, however due to shortage of funds the implementation has been delayed. The utility has informed that GIDC would be compensating this shortage.

UGVCL submitted that the company has released 17,309 Agriculture connections at the cost of Rs. 132.15 Crores under dark Zone and SPA schemes. Moreover, the company has submitted that there are no pending application registered up to 30.09.2012, under the scheme. UGVCL also clarified that the 'smart grid scheme' could not be implemented as the earlier tender floated had been scrapped. The company has informed the Commission that a new tender has been floated in May-16, considering Naroda area for around 22,000 consumers, with approximate project cost of Rs. 25 Crores, for which bidding process is in progress.

The Commission has further observed that most of the capital investment schemes by the Discoms are of continuous and ongoing nature. These are based on yearly targets set for meeting the supply obligation, providing quality and reliable power to consumers, reduction in losses, release of agriculture connections, etc. Generally, there are no pre-defined timelines as the schemes are further bifurcated into various works under the scheme. Nevertheless, the licensee shall be more realistic in projecting the capital expenditure.



**The Commission, accordingly, approves the capital expenditure at Rs. 588.21 Crore and the capitalisation at Rs. 627.52 Crore in the truing up for FY 2015-16.**

The CAPEX, capitalisation and funding claimed by UGVCL and approved by the Commission are as given in the Table below:

**Table 4.34: Approved Capitalisation and sources of funding in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Schemes	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	2015-16 Approved for true up
1	Capex	878.00	588.21	588.21
2	Capitalization	878.00	627.52	627.52
3	Less : Consumer Contribution	206.59	167.76	167.76
4	Less: Grants	244.35	59.42	59.42
<b>5</b>	<b>Balance CAPEX</b>	<b>427.06</b>	<b>400.34</b>	<b>400.34</b>
6	Debt @ 70%	298.94	280.24	280.24
7	Equity @ 30%	128.12	120.10	120.10

#### 4.6.10 Depreciation

UGVCL has claimed Rs. 231.08 Crore towards depreciation in the truing up for FY 2015-16. The depreciation charges approved in the MTR order for FY 2015-16 was 271.28 Crores.

#### Petitioner's submission

UGVCL has been charging depreciation on fixed assets of the Company, on the useful life of the assets prescribed under Schedule XIV to the Companies Act, 1956. The Company being engaged in electricity distribution business is covered under the Electricity Act, 2003 and provisions of the Electricity Act supersede the provisions of the Companies Act, 2013. Accordingly the Company has charged depreciation on fixed assets of the Company at the rates prescribed in MYT Regulations, 2011 for FY 2015-16.



**Table 4.35: Fixed assets & depreciation computed by UGVCL for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Deviation
1	Gross Block at the Beginning of the year	4,728.74	4,578.14	
2	Additions during the Year (Net)	878.00	627.52	
3	<b>Depreciation for the Year</b>	<b>271.28</b>	<b>231.08</b>	<b>40.20</b>
4	Average Rate of Depreciation	5.25%	4.72%	

The UGVCL has further submitted that actual depreciation for FY 2015-16, as against the value approved (MTR), resulted in a net uncontrollable gain of Rs. 40.20 Crore. Details are given in the Table below:

**Table 4.36: Gain / loss due to deprecation claimed in the truing up for FY 2015-16**

(Rs. Crore)

Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain / loss due to controllable factor	Gain / (loss) due to uncontrollable factor
Depreciation	271.28	231.08	-	40.20

### Commission's Analysis

The opening balance of GFA, the net addition during the year FY 2015-16 and the closing balance of GFA are verified with the audited annual accounts for FY 2015-16. While the opening GFA tallies with the Audited Accounts for FY 2015-16, the depreciation as per P&L Account for FY 2015-16 is Rs. 249.73 Crore. The Commission has considered depreciation of Rs. 249.73 Crore rather than Rs. 231.08 Crore as claimed by UGVCL as prescribed under GERC (MYT) Regulations, 2011.

**The Commission, accordingly, approves the depreciation at Rs. 249.73 Crore in the truing up for FY 2015-16.**



**Table 4.37: Approved fixed assets & depreciation for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for FY 2015-16 in MTR Order	Approved in truing up for 2015-16	Deviation
1	Gross Block at the Beginning of the year	4,728.74	4,578.14	
2	Additions during the Year (Net)	878.00	627.52	
3	Gross Block at the end of the year	5606.74	5205.67	
4	<b>Depreciation for the Year</b>	<b>271.28</b>	<b>249.73</b>	<b>21.55</b>
5	Average Rate of Depreciation	5.25%	4.72%	

The amount of depreciation is dependent on the quantum of capitalisation, rate of depreciation, etc. The Commission has, therefore, considered the parameters impacting depreciation as uncontrollable.

The Commission, accordingly, approves the gains / losses on account of depreciation in the truing up for FY 2015-16, as detailed in the Table below:

**Table 4.38: Gain / loss due to deprecation approved in the truing up for FY 2015-16**

(Rs Crore)

Particulars	Approved in the MTR order for 2015-16	Approved in truing up for 2015-16	Gain / loss due to controllable factor	Gain / (loss) due to uncontrollable factor
Depreciation	271.28	249.73	-	21.55

#### 4.6.11 Interest and Finance charges

UGVCL has claimed Rs. 135.58 Crore towards interest and finance charges in the truing up for FY 2015-16, as against Rs. 158.81 Crore approved in the MTR order for FY 2015-16.

**Table 4.39: Interest and Finance charges claimed by UGVCL in the truing up for FY 2015-16**

(Rs. Crore)

Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Deviation
Interest and Finance charges	158.81	135.58	23.23



### Petitioners' submission

UGVCL has submitted that the closing loan balance of FY 2014-15, as claimed by the company for truing up of FY 2014-15's accounts under case No. 1547 of 2015, has been considered as opening loans for FY 2015-16. Therefore, the opening loan amount considered by UGVCL is Rs. 595.13 Crore for FY 2015-16 true up.

The loan addition is computed at Rs. 280.24 Crore towards funding of CAPEX for FY 2015-16. UGVCL has considered the weighted average rate of interest of 9.49%, as against 9.76% approved in MTR order for FY 2015-16. In addition to the above, UGVCL has considered the guarantee charges payable on legacy loan from the erstwhile GEB and interest on security deposits. The details of interest and finance charges claimed by UGVCL are as given in the Table below:

**Table 4.40: Interest and Finance charges claimed by UGVCL in the truing up for FY 2015-16**

(Rs. Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Deviation
1	Opening Loans	590.83	595.13	
2	Loan Additions during the Year	298.94	280.24	
3	Repayment during the Year	271.28	231.08	
4	Closing Loans	618.49	644.29	
5	Average Loans	604.66	619.71	
6	<b>Interest on Loan</b>	<b>59.01</b>	<b>58.81</b>	<b>0.20</b>
7	Interest on Security Deposit	93.92	75.94	17.99
8	Guarantee Charges	5.87	0.83	5.04
9	<b>Total Interest &amp; Finance Charges</b>	<b>158.81</b>	<b>135.58</b>	<b>23.23</b>
10	<b>Weighted Average Rate of Interest</b>	<b>9.76%</b>	<b>9.49%</b>	

UGVCL has further submitted that interest and finance charges are categorised as uncontrollable as per the MYT Regulations, 2011 and accordingly worked out deviation in the actual vis-à-vis the approved expenses under uncontrollable factors, as given in the Table below:



**Table 4.41: Gains / (Loss) claimed due to interest & finance charges for FY 2015-16**

(Rs. Crore)

Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain / (loss) due to controllable factor	Gain / (loss) due to Un uncontrollable factor
Interest and Finance charges	158.81	135.58	-	23.23

### Commission's Analysis

The Commission observed that the closing balance of loan approved in the true up for FY 2014-15 is Rs. 595.52 Crore and the same has to be taken as opening loan balance for FY 2015-16. The Commission considers Rs. 595.52 Crore as the opening loan for the purpose of true up of FY2015-16.

The capitalisation and funding of CAPEX have been approved for FY 2015-16, based on the audited accounts.

The normative addition of loans during FY 2015-16 has been considered at Rs. 280.24 Crore as approved Section 4.6.9 based on the actual capitalisation as per the audited annual accounts. The interest on security deposits is submitted at Rs. 75.94 Crore as per audited accounts for FY 2015-16.

The repayment of loan is Rs. 249.73 Crore in the truing up for FY 2015-16, which is equivalent to the depreciation, approved in Section 4.6.10 of this order by the Commission. The guarantee charges and other finance charges, as per audited accounts for FY 2015-16, are Rs. 0.83 Crore. UGVCL has submitted details of the actual opening balance as on 01.04.2015 for each loan portfolio and the rate of interest applicable for each loan portfolio for FY 2015-16 vide e-mail dated 22.02.2017. Based on these information, the Commission has worked out the weighted average rate of interest as 7.27%, which is in accordance with the Clause 39 of GERC (MYT) Regulations, 2011. Taking all these factors into consideration, the interest charges have been computed as detailed in the Table below:



**Table 4.42: Interest and Finance charges approved by the Commission in the truing up for FY 2015-16**

(Rs. Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Approved in truing up for 2015-16
1	Opening Loans	590.83	595.52
2	Loan Additions during the Year	298.94	280.24
3	Repayment during the Year	271.28	<b>249.73</b>
4	Closing Loans	618.49	626.03
5	Average Loans	604.66	610.78
6	Interest on Loan	<b>59.01</b>	44.40
7	Interest in Security Deposit	93.92	75.94
8	Guarantee Charges	5.87	0.83
<b>9</b>	<b>Total Interest &amp; Finance Charges</b>	<b>158.81</b>	<b>121.17</b>
10	Weighted Average Rate of Interest	9.76%	7.27%

The Commission, accordingly, approves the interest and finance charges at Rs. 121.17 Crore in the truing up for FY 2015-16. As per MYT Regulations, 2011, the Commission is of the view that the parameters which impact interest and finance charges should be treated as uncontrollable.

The Commission, accordingly, approves the gains / losses on account of interest and finance charges in the truing up for FY 2015-16, as detailed in the Table below:

**Table 4.43: Gain / (loss) approved in the truing up for FY 2015-16**

(Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Approved in truing up for 2015-16	Deviation	Gain / (loss) due to Uncontrollable factor
Interest and finance charges	158.81	121.17	-	37.64

#### **4.6.12 Interest on working capital**

UGVCL has not claimed any interest on working capital in the truing up for FY 2015-16, against Nil provision approved in the MTR Order for FY 2015-16 as detailed in the Table below:



**Table 4.44: Interest on working capital claimed by UGVCL in the truing up for FY 2015-16**

(Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Claimed in Truing up for 2015-16
Interest on Working Capital	Nil	Nil

### Petitioner's submission

UGVCL has submitted that the interest on working capital has been calculated based on the GERC (MYT) Regulations, 2011, at an interest rate of 14.75%, being the SBAR of SBI as on 1st April 2015.

The detailed computation of interest on working capital is as given in the Table below:

**Table 4.45: Interest on working capital claimed by UGVCL in the truing up for FY 2015-16**

(Rs. Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in Truing up for 2015-16	Deviation
1	O & M expenses		39.08	
2	Maintenance Spares		45.78	
3	Receivables		726.25	
4	Less: Amount held as security deposit from consumers		988.06	
5	<b>Total Working Capital</b>		<b>(176.95)</b>	
6	Rate of Interest on Working Capital		14.75%	
7	<b>Interest on Working Capital</b>	-	-	

### Commission's Analysis

The Commission has examined the computation of normative working capital and interest thereon under GERC (MYT) Regulations, 2011. Regulation 41.3 and 41.4 (b) specifies that interest shall be allowed at a rate equal to the State Bank Advance Rate (SBAR) as on 1<sup>st</sup> April of the Financial Year in which the petition is filed. While truing up for FY 2011-12, the Commission had decided to consider the interest rate as SBAR prevailing as on 1<sup>st</sup> April of the Financial Year for which Truing up is being done, instead of 1<sup>st</sup> April of the Financial Year in which the petition was filed.





The SBAR as on 1<sup>st</sup> April, 2015 was 14.75%. The Commission, accordingly, takes into consideration the SBAR of 14.75% in computation of Interest on Working Capital for FY 2015-16. The Commission has computed the Working Capital and interest thereon, as detailed in the Table below:

**Table 4.46: Interest on working capital approved in the truing up for FY 2015-16**

(Rs. Crore)

Sr. No.	Particulars	Claimed in truing up for 2015-16	Approved in truing up for 2015-16
1	O&M expenses for one month	39.08	36.60
2	Maintenance spares 1% of GFA	45.78	45.78
3	Receivables one month's sales	726.25	726.25
4	Less: Amount held as security deposit from consumers	988.06	988.06
5	<b>Total working capital</b>	<b>(176.95)</b>	<b>(179.44)</b>
6	Rate of interest on working capital	14.75%	14.75%
7	Interest on Working Capital	Nil	Nil

The Commission, accordingly, approves the interest on working capital as Nil in the truing up for FY 2015-16.

#### 4.6.13 Provision for bad debts

UGVCL has claimed Rs. 6.15 Crore towards provision for bad debts in the truing up for FY 2015-16, as against Rs. 0.72 Crore approved in the MTR Order dated 29th April, 2014 for FY 2015-16 as given in the Table below:

**Table 4.47: Provision for bad debts claimed by UGVCL in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Claimed in truing up for 2015-16	Claimed in truing up for 2015-16
1	Provision for Bad Debts	0.72	6.15



### Petitioner's submission

UGVCL has claimed Rs. 6.15 Crore towards provision for bad and doubtful debts and submitted that comparison of the actual with the figure approved in the MTR Order resulted in a loss of Rs. 5.43 Crore on account of controllable factors, as shown in the Table below:

**Table 4.48: Provision for bad debts for FY 2015-16**

(Rs Crore)					
Sr. No.	Particulars	Claimed in truing up for 2015-16	Claimed in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Provision for Bad Debts	0.72	6.15	(5.43)	-

### Commission's Analysis

The Commission has observed that UGVCL has claimed Rs. 6.15 Crore towards Bad & Doubtful Debts Written Off / Provided for during FY 2015-16. UGVCL submitted that Rs 5.45 Crore has been considered as provision for bad debts as per the prevailing practice of the company. Every year the company reviews its adequacy of provision available with the company considering outstanding dues from consumers. Accordingly the company has reviewed and made additional provision of Rs. 5.45 Crore towards Bad & Doubtful debts.

The Commission verified from the audited annual accounts that bad debts provided for were Rs. 5.45 Crore. **Section 98.8.1** of GERC MYT Regulations, 2011 specifies that the Commission may allow bad debts written off as a pass through in the aggregate revenue requirement subject to prudence check. The actual bad and doubtful debt written off was Rs. 0.70 Crore as per UGVCL's annual accounts of 2015-16. The Commission notes that the actual amount written-off has been far lower than the amount of provision made for bad debts.

The Commission, therefore, approves Rs. 0.70 Crore towards bad and doubtful debts written off in the truing up for FY 2015-16.

The deviation on account of bad debts written off is Rs. 0.70 Crore and the Commission considers the same as gain due to controllable factors, as detailed in the Table below:



**Table 4.49: Gains/ (Losses) due to Bad Debts approved in the Truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Approved in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Provision for Bad Debts	0.72	0.70	0.02	-

#### 4.6.14 Return on equity

UGVCL has claimed Rs. 147.90 Crore towards return on equity in the truing up for FY 2015-16, as against Rs. 147.76 Crore approved in the MTR Order dated 29th April, 2014 for FY 2015-16, as given in the Table below:

**Table 4.50: Return on equity claimed by UGVCL in the truing up for FY 2015-16**

(Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16
Return on Equity	147.76	147.90

#### Petitioner's submission

UGVCL has computed the return on equity considering the rate of 14% on the average of opening and closing equity, taking into account the additions during the year FY 2015-16.

The details of computation of return on equity are as given in the Table below:

**Table 4.51: Return on equity claimed by UGVCL in the truing up for FY 2015-16**

(Rs. Crore)

Sr. No.	Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16
1	Opening Equity	991.37	996.37
2	Equity Additions during the Year	128.13	120.10
3	Closing Equity	1,119.50	1,116.47
4	Average Equity	1,055.44	1,056.42
5	Rate of Return on the Equity	14%	14%
6	Return on Equity	147.76	147.90



### Commission's analysis

UGVCL has furnished the opening equity of Rs. 996.37 Crore for FY 2015-16 and it has submitted equity addition as Rs. 120.10 Crore during the FY 2015-16. The actual opening equity, as on 01/04/2015, was Rs. 996.37 Crore, being the closing balance of equity approved in the True-up for FY 2014-15. The Commission has approved the normative equity addition as Rs. 120.10 Crore in **Section 4.6.9**.

The Commission has computed the return on equity in the truing up for FY 2015-16, as detailed in the Table below:

**Table 4.52: Return on equity approved for FY 2015-16**

(Rs. Crore)

Sr. No.	Particulars	Claimed in truing up for 2015-16	Approved in truing up for 2015-16
1	Opening Equity	996.37	996.37
2	Equity Additions during the Year	120.10	120.10
3	Closing Equity	1,116.47	1,116.47
4	Average Equity	1,056.42	1,056.42
5	Rate of Return on the Equity	14%	14%
6	<b>Return on Equity</b>	<b>147.90</b>	<b>147.90</b>

**The Commission approves the return on equity at Rs. 147.90 Crore in the truing up for FY 2015-16.**

It is considered that the deviation is due to uncontrollable factors as the return on equity is being allowed on a normative basis and the quantum of equity addition in the year depends upon the capital expenditure and the capitalization achieved during the year.

As per GERC MYT Regulations, 2011, the factors impacting the Return on Equity are considered uncontrollable. The Commission, accordingly, approves the gains and losses, on account of Return on Equity, in the Truing up for FY 2015-16.

The Commission, accordingly, approves the gains / losses on account of return on equity in the truing up for FY 2015-16, as detailed in the Table below:



**Table 4.53: Approved gains / losses due to return on equity in the truing up for FY 2015-16**

(Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Approved in truing up for 2015-16	Gains/(Losses) due to controllable factors	Gain / (loss) due to Un controllable factor
Return on equity	147.76	147.90	-	(0.14)

#### 4.6.15 Taxes

UGVCL has submitted Rs. 17.14 Crore towards income tax for FY 2015-16, as against Rs. 15 Crore approved in MTR Order for FY 2015-16, as given in the Table below:

**Table 4.54: Taxes claimed by UGVCL in the truing up for FY 2015-16**

(Rs. Crore)

Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16
Provision for tax / paid	15.00	17.14

#### Petitioner's submission

The licensee has submitted that the actual tax worked out to be Rs. 17.14 Crore, as against Rs. 15.00 Crore approved in the MTR Order for FY 2015-16. UGVCL has further mentioned that tax is a statutory expense and this should be allowed without any deduction. UGVCL has submitted a loss of Rs. 2.14 Crore on account of tax, as given in the Table below:

**Table 4.55: Gains / (Loss) claimed due to provision for taxes for FY 2015-16**

(Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain /( loss) due to controllable factor	Gain / (loss) due to Un uncontrollable factor
Provision for tax / tax paid	15.00	17.14	-	(2.14)



### Commission's Analysis

The Commission has obtained the copies of the challans of Tax payer's counterfoil and also verified from the audited annual accounts of the company and found that the licensee has paid tax of Rs. 17.14 Crore.

The Commission, accordingly, approves the provision for tax at Rs. 17.14 Crore in the truing up for FY 2015-16.

With regard to the computation of Gains/(Losses), Regulation 23.1 of MYT Regulations, 2011 considers variation in taxes on income as uncontrollable. The Commission, accordingly, approves the Gains/(Losses) on account of tax on income in the truing up for FY 2015-16, as detailed in the Table below:

**Table 4.56: Approved gains / losses due to tax in the truing up for FY 2015-16**

(Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Approved in truing up for 2015-16	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
Tax on income	15.00	17.14	-	(2.14)

### 4.6.16 Non-tariff income

UGVCL has claimed the actual Non-Tariff income at Rs. 167.85 Crore in the truing up for FY 2015-16, as against Rs. 156.83 Crore approved in the MTR Order dated 29th April, 2014 for FY 2015-16, as detailed in the Table below:

**Table 4.57: Non-tariff income claimed by UGVCL in the truing up for FY 2015-16**

(Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16
Non-tariff income	156.83	167.85



### Petitioner's submission

The petitioner has submitted that the actual value of non-tariff income is Rs. 167.85 Crore, as against Rs. 156.83 Crore approved in the MTR order for 2015-16. This resulted in a net controllable gain of Rs. 11.02 Crore, as detailed in the Table below:

**Table 4.58: Gains / (Loss) claimed due to non-tariff income for FY 2015-16**

(Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Claimed in truing up for 2015-16	Gain / (loss) due to uncontrollable factor	Gain / (loss) due to uncontrollable factor
Non-tariff income	156.83	167.85		11.02

### Commission's Analysis

The Commission verified and found that the actual non-tariff income is Rs. 166.52 Crore, net of interest on staff loans (Rs. 1.33 Crore), as per the audited annual accounts for FY 2015-16.

The Commission, accordingly, approves the non-tariff income at Rs. 166.52 Crore in the truing up for FY 2015-16. The Commission noted that higher non-tariff income is largely due to inclusion of Rs 19.76 Crore of DPC.

The deviation in non-tariff income is considered as uncontrollable. The Commission, accordingly, approves the gains / losses on account of non-tariff income in the truing up for FY 2015-16, as detailed in the Table below:

**Table 4.59: Approved gains / losses due to non-tariff income in the truing up for FY 2015-16**

(Rs Crore)

Particulars	Approved for 2015-16 in MTR Order	Approved in truing up for 2015-16	Gain / (loss) due to uncontrollable factor	Gain / (loss) due to uncontrollable factor
Non-tariff income	156.83	166.52	-	(9.69)



## 4.7 Revenue from sale of power

UGVCL has furnished the total revenue at Rs. 8714.97 Crore in the truing up for FY 2015-16, as against Rs. 8,167.95 Crore approved in the order dated 31<sup>st</sup> March, 2015, as detailed in the Table below:

**Table 4.60: Revenue submitted in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Approved for 2015-16 in order dated 31st March 2015	Claimed in Truing up for 2015-16
1	Revenue from Sale of Power	5,477.19	7,926.55
2	Revenue from FPPPA at Rs. 1.20 per kWh	2,021.76	
3	Other Income (Consumer related)	139.00	252.35
4	<b>Total Revenue excluding subsidy (1+2+3)</b>	<b>7,637.95</b>	<b>8,178.90</b>
5	Agriculture Subsidy	530.00	536.06
6	<b>Total Revenue including subsidy (4+5)</b>	<b>8,167.95</b>	<b>8,714.97</b>

### Commission's Analysis

The Commission has verified the total revenue for FY 2015-16 from the audited accounts. The actual revenue from category-wise sales, as per audited accounts, is Rs. 7,926.55 Crore. The revenue shown by the licensee from sale of power to GUVNL is Rs. 40.02 Crore and UI charges are Rs. 49.05 Crore for FY 2015-16 and the same has been adjusted by the Commission against the power purchase cost for the FY 2015-16, as shown in Section 4.4.

**Table 4.61: Revenue approved in the truing up for FY 2015-16**

(Rs Crore)

Sr. No.	Particulars	Claimed in truing up for 2015-16	Approved for 2015-16 in Truing up
1	Revenue from sale of power	7,926.55	7,926.55
2	Other income (Consumer related)	252.35	252.35
3	Total revenue excluding subsidy (1+2)	8,178.90	8,178.90
4	Agriculture subsidy	536.06	536.06





Sr. No.	Particulars	Claimed in truing up for 2015-16	Approved for 2015-16 in Truing up
5	Total revenue including subsidy (3+4+5)	8,714.97	8,714.97

The Commission, accordingly, approves the total revenue of Rs. 8,714.97 Crore, including consumer related income, at Rs. 252.35 Crore and agriculture subsidy at Rs. 536.06 Crore in the truing up for FY 2015-16.

#### 4.8 ARR approved in the truing up

The Commission reviewed the performance of UGVCL under Regulation 22 of the GERC (MYT) Regulations, 2011, with reference to the audited accounts for FY 2015-16. The Commission computed the gains/(losses) for FY 2015-16, based on the truing up for each of the component discussed in the above paragraphs.

The Aggregate Revenue Requirement (ARR) approved in the MTR Order dated 29th April, 2014, actual submitted in truing up and approved for truing up and Gains/(Losses) computed in accordance with GERC (MYT) Regulations, 2011 are a given in the Table below:

**Table 4.62: ARR approved in truing up for FY 2015-16**

(Rs. Crore)

Sr. No.	Annual Revenue Requirement	Approved for 2015-16 in MTR Order	Claimed in Truing up for 2015-16	Approved in Truing up for 2015-16	Deviation +/-	Gains/ (Losses) due to controllable factors	Gains/ (Losses) due to uncontrollable factors
1	2	3	4	5	6=(3-5)	7	8
1	Cost of power purchase	7228.97	7888.88	7888.88	(659.91)	67.61	(727.52)
2	O&M Expenses	343.12	468.93	439.15	(96.03)	(21.49)	(74.54)
2.1	Employee cost	373.28	433.82	404.05	(30.77)	(30.77)	
2.2	Repairs and Maintenance Expenses	76.21	59.72	59.72	16.49	16.49	



Sr. No.	Annual Revenue Requirement	Approved for 2015-16 in MTR Order	Claimed in Truing up for 2015-16	Approved in Truing up for 2015-16	Deviation +/-	Gains/ (Losses) due to controllable factors	Gains/ (Losses) due to uncontrollable factors
1	2	3	4	5	6=(3-5)	7	8
2.3	Administration and General expenses	62.32	69.53	69.53	(7.21)	(7.21)	
2.4	Other debits	6.74	3.63	3.63	3.11		3.11
2.5	Extraordinary items	0.57	14.75	14.75	(14.18)		(14.18)
2.6	Net prior period expenses/ (income)	0.00	(0.35)	(0.35)	0.35		0.35
2.7	Other expenses capitalised	(176.00)	(112.18)	(112.18)	(63.82)		(63.82)
3	Depreciation	271.28	231.08	249.73	21.55		21.55
4	Interest and Finance charges	158.81	135.58	121.17	37.64		37.64
5	Interest on working capital	0.00	0.00	0.00	0.00		0.00
6	Provision for bad debts	0.72	6.15	0.70	0.02	0.02	
7	Return on equity	147.76	147.90	147.90	(0.14)		(0.14)
8	Provision for Tax / tax paid	15.00	17.14	17.14	(2.14)		(2.14)
9	<b>Total expenditure (1 to 8)</b>	<b>8165.66</b>	<b>8895.65</b>	<b>8864.67</b>	<b>(699.01)</b>	<b>46.14</b>	<b>(745.15)</b>
10	Less: Non-Tariff income	156.83	167.85	166.52	(9.69)		(9.69)
11	<b>Aggregate Revenue Requirement</b>	<b>8008.83</b>	<b>8727.80</b>	<b>8698.15</b>	<b>(689.32)</b>	<b>46.14</b>	<b>(735.46)</b>

## 4.9 Sharing of Gains / Losses for FY 2015-16

The Commission has analysed the gains / (losses) on account of controllable and uncontrollable factors. The relevant Regulations are extracted below



*Regulation 24. Mechanism for pass-through of gains or losses on account of uncontrollable factors*

*24.1 The approved aggregate gain or loss to the Generating Company, or Transmission Licensee, or Distribution Licensee, on account of uncontrollable factors shall be passed through as an adjustment in the Tariff of the Generating Company or Transmission Licensee or Distribution Licensee over such period as may be specified in the Order of the Commission passed under these Regulations.*

*24.2 The Generating Company, or Transmission Licensee or Distribution Licensee shall submit such details of the variation between expenses incurred and revenue earned and figures approved by the Commission, in the prescribed format to the Commission, along with detailed computations and supporting documents as may be required for verification by the Commission.*

*24.3 Nothing contained in this Regulation 24 shall apply in respect of any gain or loss arising out of variations in the price of fuel and power purchase which shall be dealt with as specified by the Commission from time to time.*

*Regulation 25. Mechanism for sharing of gains or losses on account of controllable factors*

*25.1 The approved aggregate gain to the Generating Company, or Transmission Licensee, or Distribution Licensee, on account of controllable factors, shall be dealt with in the following manner:*

*One-third of the amount of such gain shall be passed on as a rebate in Tariffs over such period as may be specified in the Order of the Commission under Regulation 22.6;*

*The balance amount, which will amount to two-thirds of such gain, may be utilised at the discretion of the Generating Company, or Transmission Licensee, or Distribution Licensee.*

*25.2 The approved aggregate loss to the Generating Company, or Transmission Licensee, or Distribution Licensee, on account of controllable factors, shall be dealt with in the following manner:*



- a) *One-third of the amount of such loss may be passed on as an additional charge in Tariffs over such period as may be specified in the Order of the Commission under Regulation 22.6; and*
- b) *The balance amount, which will amount to two-thirds of such loss, shall be absorbed by the Generating Company, or Transmission Licensee or Distribution Licensee.”*

#### 4.10 Revenue gap / surplus for FY 2015-16

As shown in the Table below, UGVCL has submitted a revenue gap of Rs. 331.96 Crore in the truing up after treatment of Gains/(Losses) due to controllable/ uncontrollable factors, after comparing the performance with the Tariff Order for FY 2015-16.

**Table 4.63: Projected Revenue Surplus/ (gap) for FY 2015-16**

		(Rs Crore)
Sr. No.	Particulars	2015-16
1	Aggregate Revenue Requirement originally approved for FY 2015-16	8008.83
2	Surplus/ (gap) of FY 2013-14	(268.88)
3	DSM Programme expenditure	40.00
4	Gain / (Loss) on account of Uncontrollable factor to be passed on to Consumer	(734.34)
5	Gain / (Loss) on account of Controllable factor to be passed on to Consumer (1/3rd of Total Gain / Loss)	5.12
6	<b>Revised ARR for FY 2015-16 (1 - 2 + 3 - 4 - 5)</b>	<b>9046.93</b>
7	Revenue from Sale of Power	7926.55
8	Other Income (Consumer related)	252.35
9	<b>Total Revenue excluding Subsidy (7 + 8)</b>	<b>8178.90</b>
10	Agriculture Subsidy	536.06
11	<b>Total Revenue including Subsidy (9+10)</b>	<b>8714.96</b>
12	<b>Revised Gap after treating gains/(losses) due to Controllable/ Uncontrollable factors (11-6)</b>	<b>(331.97)</b>



### **Petitioner's Submission**

The Commission in its MTR order for FY 2015-16 has approved Aggregate Revenue Requirement of Rs. 8008.83 Crore for FY 2015-16.

The Commission had also added Revenue gap of Rs. 268.88 Crore due to truing up of FY 2013-14 and Rs. 40.00 Crore as DSM program expenditure in the above Aggregate Revenue Requirement of Rs. 8008.83 Crore and total approved Aggregate Revenue Requirement was Rs. 8317.71 Crore.

As per the mechanism specified in the MYT Regulation 2011, UGVCL proposes to pass on a sum of 1/3rd of total gain on account of controllable factors i.e. Rs. 5.12 Crore and total loss on account of uncontrollable factors i.e. Rs. 734.34 Crore to the consumers. Adjusting these to the net Aggregate Revenue Requirement, UGVCL has arrived at the Revised Aggregate Revenue Requirement for FY 2015-16 at Rs. 9,046.93 Crore.

This revised Aggregate Revenue Requirement is compared against the revised income under various heads including Revenue with Existing Tariff of Rs 7,926.55 Crore, Other Consumer related Income of Rs. 252.35 Crore, Agriculture Subsidies of Rs. 536.06 Crore, summing up to a Total Revenue of Rs. 7,926.55 Crore. Accordingly, total Revenue Gap of UGVCL for FY 2015-16 after treatment of gain/(loss) due to controllable / uncontrollable factors is computed at Rs. 331.97 Crore.

### **Commission's Analysis**

The Commission compared the actual performance of UGVCL with the values approved in the MTR Order dated 29<sup>th</sup> April, 2014.

It is to be noted that the Commission had directed UGVCL to submit financial implication of DSM programme in the tariff petition for determination of tariff for FY 2015-16. In line with the same, UGVCL had proposed expenditure of Rs. 40 Crore under DSM Programme for FY 2015-16. The Commission had approved the same in Order dated 31<sup>st</sup> March 2015. However, UGVCL has not been able to implement the proposed schemes, therefore, the Commission decided not to allow amount of Rs 40 Crore under DSM schemes for truing up of FY 2015-16 accounts.



The Commission arrived at the revised ARR and revenue gap, based on the expenses and the gains / loss approved in the truing up for FY 2015-16. The revenue surplus/ (gap) is approved by the Commission for FY 2015-16 as summarised in the Table below:

**Table 4.64: Revenue Surplus/ (Gap) approved in the truing up for FY 2015-16**

(Rs. Crore)

Sr. No.	Particulars	Approved in truing up for 2015-16
1	Aggregate Revenue Requirement originally approved for FY 2015-16	8008.83
2	Surplus/(Gap) of FY 2013-14	(268.88)
3	DSM Programme expenditure	0.00
4	Gain/ (loss) on account of Uncontrollable factor to be passed on to Consumer	(735.46)
5	Gain/ (loss) on account of Controllable factor to be passed on to Consumer (1/3rd of Total Gain / (Loss))	15.38
6	<b>Revised ARR for FY 2015-16 (1-2+3-4-5)</b>	<b>8997.79</b>
7	Revenue from Sale of Power	7926.55
8	Other Income (Consumer related)	252.35
9	Agriculture Subsidy	536.06
10	<b>Total Revenue including Subsidy (7+8+9)</b>	<b>8714.96</b>
11	<b>Revised Surplus/ (gap) after treating loss/ (gain) due to Controllable/ Uncontrollable factors (10-6)</b>	<b>(282.83)</b>

#### 4.11 Consolidated revenue Surplus/(Gap) of the DISCOMs for 2015-16

The consolidated revenue surplus / (gap) of the four DISCOMs viz. UGVCL, MGVCL, PGVCL and UGVCL, after truing up of FY 2015-16 is summarised below.

**Table 4.65: Consolidated revenue surplus/ (gap) of four DISCOMs for FY 2015-16 (Rs. Crore)**

Sr. No.	DISCOMs	Gap/ (Surplus)
1	DGVCL	(165.74)
2	MGVCL	(47.23)
3	PGVCL	(299.94)
4	<b>UGVCL</b>	<b>(282.83)</b>
	<b>Total</b>	<b>(795.74)</b>



While determining the ARR for FY 2015-16 in the MTR Order dated 29<sup>th</sup> April, 2014, the Commission has considered GUVNL cost of 4 paise per unit to be added to power purchase cost of each DISCOM. GUVNL is entrusted with the purchase of power on behalf of DISCOMs and sale of surplus power, if any, thereby adjusting power purchase cost of the DISCOMs. The 4 paise / unit is allowed by the Commission to GUVNL for meeting their expenses to carry out the business entrusted to it. It is very clear that any profit earned by GUVNL out of its statutory activities should be distributed amongst DISCOMs as the entire cost of GUVNL is being borne by DISCOM. In view of the above, the Commission decides to adjust the amount of Rs. 102.24 Crore which is Profit After Tax in P&L Statement of the Annual Accounts of GUVNL for FY 2015-16 in proportion to the energy purchased from GUVNL by each DISCOM, as reflected in the respective Audited Accounts and additional information called for by the Commission, as shown in the Table below.

Further, the Discoms had filed an appeal before Hon'ble APTEL on the Tariff orders dated 16.04.2013 issued by the Commission. Hon'ble APTEL has given its verdict on the Discoms' appeal on 04.12.2014. The Commission has issued the consequential order on 24.03.2015 to implement the judgement dated 04.12.2014 of APTEL. As per the aforementioned order of the Commission, previous years consolidated gap of Rs. 288.33 Crore has been considered. Further, an amount of Rs. 142.72 Crore actually paid by GUVNL/Discoms to M/s Adani Power Ltd. towards custom duty as against the claim of Rs. 255.43 Crore as per their letter dated 31.01.2015 is also added in the consolidated gap. Accordingly, a total amount of Rs. 431.10 Crore (Rs. 288.33+ Rs. 142.77) is added to the consolidated gap. Although the said amount of Rs. 431.10 Crore has not been sought by the Discoms in the current petition, they have nevertheless requested the Commission to allow the same during submission of responses to the queries of the Commission. The Commission, therefore, allows the amount of Rs. 431.10 Crore as previous years' revenue gaps for all 4 GUVNL Discoms.

Moreover, the Commission has observed that a provision of Rs 1916 Crores has been made in the annual accounts of GUVNL, to address part of the power purchase cost that is being under litigation with various parties. Since, such cost is yet to be materialized, the Commission disallows the amount of Rs. 1916 Crore from the purview of FY 2015-16 true up order. However, as and



when part or whole of such amount is paid by the Discoms/ GUVNL, the same would be allowed during that year's true up petition subject to prudence check.

The overall summary of revenue surplus/ (gap) for all 4 GUVNL discoms have been provided below.

**Table 4.66: Net revenue Surplus/ (gap) approved for FY 2015-16 (Rs Crore)**

Sr. No.	Particulars	DGVCL	MGVCL	PGVCL	UGVCL	Total
1	Energy Purchased by four State Owned DISCOMs (in MUs)	19,469	10,543	29,974	20,881	80,867
2	% share in procurement of energy	24.08%	13.04%	37.07%	25.82%	100%
3	<b>GUVNL profit to be adjusted (Rs Crore)</b>	<b>102.24</b>				
4	Distribution of excess cost recovery by GUVNL as per % shown in (2) (in Rs. Crore)	24.61	13.33	37.90	26.40	102.24
5	<b>Previous years gaps (Case no 1463 of 2014)</b>	<b>(431.10)</b>				
6	Previous years gaps as per % shown in (2) (in Rs. Crore)	(103.79)	(56.20)	(159.79)	(111.32)	(431.10)
7	<b>Disallowances of power purchase cost (On accounts of litigation)</b>	<b>1916.00</b>				
8	Disallowances of power purchase cost as per % shown in (2)	461.28	249.80	710.18	494.74	1916.00
9	Revenue gap/ surplus/ (gap) after truing up of FY 2015-16 (in Rs. Crore)	(165.74)	(47.23)	(299.94)	(282.83)	(795.74)
10	<b>Net revenue surplus/ (gap) of FY 2015-16 to be considered (in Rs. Crore)</b>	<b>216.37</b>	<b>159.70</b>	<b>288.34</b>	<b>126.99</b>	<b>791.40</b>





## **5 Aggregate Revenue Requirement (ARR) for the FY 2016-17 to FY 2020-21, the control period and determination of tariff for FY 2017-18**

### **5.1 Energy Sales**

Proper estimation of category-wise energy sales for the control period is essential to arrive at the quantum of power to be purchased and the likely revenue from sale of energy.

This Section examines in detail the consumer category-wise energy sales projected by UGVCL in its MYT Petition for the control period FY 2016-17 to FY 2020-21 for approval of ARR.

#### **Consumer Category**

UGVCL serves over 32 lakh consumers within its license area and the consumers are broadly categorised as under:

##### **LT category**

- RGP
- GLP
- Non-RGP & LTMD
- Public Water Works
- Agriculture-Unmetered
- Agriculture-Metered
- Street Light

##### **HT category**

- Industrial HT
- Railway Traction

UGVCL serves the consumers at different voltages at which the consumers avail supply. All the consumer connections, other than agriculture are metered. All the agriculture connections released since October, 2000 are metered. However, a majority of the agriculture connections



(which were released prior to October, 2000) are un-metered and their consumption is assessed based on the normative consumption approved by the Commission.

### 5.1.1 Overall approach to sales projections

UGVCL has stated that methodology based on past trend has proved to be a reasonably accurate and well-accepted method for estimating the energy consumption, number of consumers and connected load. UGVCL has, therefore, estimated the energy sales, the number of consumers and connected load, based on compound annual growth rate (CAGR) during the past years. Wherever the average has seemed unreasonable or unsustainable, the growth factors have been adjusted by the DISCOM to arrive at more realistic projections.

Where the past data is fairly accurate and the patterns are well established, the methodology based on past data is a well-established method for energy forecast. As such, the methodology adopted by the UGVCL is accepted by the Commission.

### 5.1.2 Category-wise projected energy sales for the control period FY 2016-17 to FY 2020-21

UGVCL has furnished the category-wise sales of the last 6 years (FY 2010-11 to FY 2015-16). Based on the actuals sales figures of FY 2010-11 to FY 2015-16, the sales figures for the control period has been projected. CAGR has been computed for each consumer category for the past 5-year period between FY 2010-11 to FY 2015-16, the 4-year period between FY 2011-12 to FY 2015-16, the 3-year period between FY 2012-13 to FY 2015-16, and the 2-year period between FY 2013-14 to FY 2015-16, along with the y-o-y growth rate of FY 2015-16 over FY 2014-15, as summarised in the Table below.

**Table 5.1: Historical trend in category-wise units sold**

(MUs)

Sr. No.	Category	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
	<b>LOW TENSION</b>						
1	RGP	1272	1371	1480	1573	1764	1881
2	GLP	1200	1274	32	34	37	41
3	Non-RGP & LTMD			1326	1337	1432	1557



Sr. No.	Category	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
4	Public Water Works	462	482	515	518	572	610
5	Agriculture-Unmetered	6008	6036	6094	6164	6177	6219
6	Agriculture-Metered	1074	1225	1536	1332	1893	2330
7	<b>Street Light</b>	<b>39</b>	<b>41</b>	<b>43</b>	<b>46</b>	<b>48</b>	<b>52</b>
	<b>Sub-Total</b>	<b>10055</b>	<b>10429</b>	<b>11027</b>	<b>11005</b>	<b>11923</b>	<b>12690</b>
	<b>HIGH TENSION</b>						
1	Industrial HT	3250	3566	3771	3465	4469	4550
2	Railway Traction	14	17	17	15	16	14
	<b>Sub Total</b>	<b>3264</b>	<b>3583</b>	<b>3788</b>	<b>3481</b>	<b>4485</b>	<b>4564</b>
	<b>TOTAL</b>	<b>13319</b>	<b>14012</b>	<b>14816</b>	<b>14486</b>	<b>16408</b>	<b>17254</b>

**Table 5.2 : Category-wise CAGR of Units Sold**

Sr. No.	Category	5 year	4 year	3 year	2 year	1 year
	<b>LOW TENSION</b>					
1	RGP	8.14%	8.23%	8.32%	9.35%	6.68%
2	GLP	-	-	8.34%	10.53%	10.37%
3	Non-RGP & LTMD	-	-	5.50%	7.92%	8.75%
4	Public Water Works	5.71%	6.06%	5.81%	8.52%	6.72%
5	Agriculture-Unmetered	0.69%	0.75%	0.68%	0.44%	0.67%
6	Agriculture-Metered	16.75%	17.44%	14.89%	32.24%	23.10%
7	Street Light	5.97%	6.18%	6.42%	6.16%	7.87%
	<b>Sub-Total</b>	<b>4.77%</b>	<b>5.03%</b>	<b>4.79%</b>	<b>7.39%</b>	<b>6.44%</b>
	<b>HIGH TENSION</b>					
1	Industrial HT	6.96%	6.28%	6.46%	14.58%	1.81%
2	Railway Traction	-0.06%	-4.81%	-6.70%	-4.62%	-12.67%
	<b>Sub Total</b>	<b>6.93%</b>	<b>6.24%</b>	<b>6.40%</b>	<b>14.51%</b>	<b>1.76%</b>
	<b>TOTAL</b>	<b>5.31%</b>	<b>5.34%</b>	<b>5.21%</b>	<b>9.14%</b>	<b>5.16%</b>

### 5.1.3 Consumer profile and connected load

The UGVCL has also furnished the category-wise number of consumers and the connected load for past years and CAGR growth rates for different periods (5 year, 4 year, 3 year, 2 year and YoY), as given below:



**Table 5.3 : Category-wise No. of Consumers**

Sr. No.	Category	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
	<b>LOW TENSION</b>						
1	RGP	2126742	2228597	2298488	2368434	2432337	2520821
2	GLP	289602	295248	19209	19410	20483	21932
3	Non-RGP & LTMD			267930	281035	295632	315654
4	Public Water Works	12992	13647	14511	15412	16540	18158
5	Agriculture- Unmetered	155581	155296	155009	154695	154384	154182
6	Agriculture- Metered	70288	76690	90070	106859	129011	154386
7	Street Light	8391	9038	9693	10274	10923	11788
	<b>Sub-Total</b>	<b>2663596</b>	<b>2778516</b>	<b>2854910</b>	<b>2956119</b>	<b>3059310</b>	<b>3196921</b>
	<b>HIGH TENSION</b>						
1	Industrial HT	2094	2301	2551	2743	3001	3284
2	Railway Traction	1	1	1	1	1	1
	<b>Sub Total</b>	<b>2095</b>	<b>2302</b>	<b>2552</b>	<b>2744</b>	<b>3002</b>	<b>3285</b>
	<b>TOTAL</b>	<b>2665691</b>	<b>2780818</b>	<b>2857462</b>	<b>2958863</b>	<b>3062312</b>	<b>3200206</b>

**Table 5.4 : CAGR of no. of Consumers**

Sr. No.	Category	5 year	4 year	3 year	2 year	1 year
	<b>LOW TENSION</b>					
1	RGP	3.46%	3.13%	3.13%	3.17%	3.64%
2	GLP			4.52%	6.30%	7.07%
3	Non-RGP & LTMD			5.62%	5.98%	6.77%
4	Public Water Works	6.92%	7.40%	7.76%	8.54%	9.78%
5	Agriculture-Unmetered	-0.18%	-0.18%	-0.18%	-0.17%	-0.13%
6	Agriculture-Metered	17.04%	19.12%	19.68%	20.20%	19.67%
7	Street Light	7.03%	6.87%	6.74%	7.11%	7.92%
	<b>Sub-Total</b>	<b>3.72%</b>	<b>3.57%</b>	<b>3.84%</b>	<b>3.99%</b>	<b>4.50%</b>
	<b>HIGH TENSION</b>					
1	Industrial HT	9.42%	9.30%	8.78%	9.42%	9.43%
2	Railway Traction	0.00%	0.00%	0.00%	0.00%	0.00%
	<b>Sub Total</b>	<b>9.41%</b>	<b>9.30%</b>	<b>8.78%</b>	<b>9.41%</b>	<b>9.43%</b>
	<b>TOTAL</b>	<b>3.72%</b>	<b>3.57%</b>	<b>3.85%</b>	<b>4.00%</b>	<b>4.50%</b>



### Connected Load Profile

The Break-up of the connected load profile and the CAGR growth rates for different periods (5 years, 4 year, 3 year, 2 year and year on year) thereof are as follows:

**Table 5.5 : Category-wise Connected Load**

(MW/MVA)

Sr. No.	Category	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
	<b>LOW TENSION</b>						
1	RGP	1468	1633	1756	1911	2066	2286
2	GLP	1207	1211	36	40	43	47
3	Non-RGP & LTMD			1226	1278	1384	1516
4	Public Water Works	201	211	243	292	310	334
5	Agriculture-Unmetered	2642	2652	2691	2710	2718	2736
6	Agriculture-Metered	870	930	1083	1284	1546	1838
7	Street Light	29	31	28	21	22	25
	<b>Sub-Total</b>	<b>6417</b>	<b>6668</b>	<b>7063</b>	<b>7535</b>	<b>8088</b>	<b>8781</b>
	<b>HIGH TENSION</b>						
1	Industrial HT	1134	1244	1473	1657	2676	2825
2	Railway Traction	5	5	5	5	5	5
	<b>Sub Total</b>	<b>1139</b>	<b>1249</b>	<b>1478</b>	<b>1662</b>	<b>2681</b>	<b>2830</b>
	<b>TOTAL</b>	<b>7556</b>	<b>7917</b>	<b>8541</b>	<b>9197</b>	<b>10769</b>	<b>11611</b>

**Table 5.6 : CAGR of Connected Load**

Sr. No.	Category	5 year	4 year	3 year	2 year	1 year
	<b>LOW TENSION</b>					
1	RGP	9.26%	8.77%	9.19%	9.36%	10.66%
2	GLP			9.34%	8.60%	9.80%
3	Non-RGP & LTMD			7.32%	8.90%	9.54%
4	Public Water Works	10.68%	12.16%	11.17%	7.00%	7.77%
5	Agriculture-Unmetered	0.70%	0.78%	0.56%	0.48%	0.66%
6	Agriculture-Metered	16.13%	18.57%	19.28%	19.64%	18.88%
7	Street Light	-3.29%	-5.68%	-4.31%	8.86%	9.56%
	<b>Sub-Total</b>	<b>6.47%</b>	<b>7.12%</b>	<b>7.53%</b>	<b>7.95%</b>	<b>8.56%</b>
	<b>HIGH TENSION</b>					
1	Industrial HT	20.03%	22.76%	24.25%	30.58%	5.57%



Sr. No.	Category	5 year	4 year	3 year	2 year	1 year
2	Railway Traction					
	<b>Sub Total</b>	<b>19.96%</b>	<b>22.69%</b>	<b>24.17%</b>	<b>30.50%</b>	<b>5.56%</b>
	<b>TOTAL</b>	<b>8.97%</b>	<b>10.05%</b>	<b>10.78%</b>	<b>12.36%</b>	<b>7.81%</b>

#### 5.1.4 Category-wise projected energy sales

Based on the growth rates of energy sales given in Tables above, UGVCL has projected category-wise energy sales for the control period FY 2016-17 to FY 2020-21 as given in the Table below. It is stated in the petition that the sales are projected for the control period with the consideration of base numbers of FY 2015-16.

**Table 5.7 : Projection of Sales**

(MUs)

Sr. No.	Category	2016-17	2017-18	2018-19	2019-20	2020-21
	<b>LOW TENSION</b>					
1	RGP	2035	2200	2379	2573	2783
2	GLP	44	48	52	57	61
3	Non-RGP & LTMD	1643	1733	1829	1929	2035
4	Public Water Works	662	718	780	846	918
5	Agriculture-Unmetered	6219	6219	6219	6219	6219
6	Agriculture-Metered	2791	3253	3714	4175	4636
7	Street Light	55	59	62	66	70
	<b>Sub-Total</b>	<b>13449</b>	<b>14230</b>	<b>15034</b>	<b>15864</b>	<b>16721</b>
	<b>HIGH TENSION</b>					
1	Industrial HT	4632	4716	4802	4889	4977
2	Railway Traction	0	0	0	0	0
	<b>Sub Total</b>	<b>4632</b>	<b>4716</b>	<b>4802</b>	<b>4889</b>	<b>4977</b>
	<b>TOTAL</b>	<b>18081</b>	<b>18946</b>	<b>19836</b>	<b>20752</b>	<b>21698</b>

#### Projection of consumers and connected load

The UGVCL has also projected the category-wise number of consumers and connected load for the control period as shown below:



**Table 5.8 : Projection of No. of Consumers**

Sr. No.	Category	2016-17	2017-18	2018-19	2019-20	2020-21
	<b>LOW TENSION</b>					
1	RGP	2607999	2698192	2791504	2888044	2987922
2	GLP	22923	23959	25041	26172	27355
3	Non-RGP & LTMD	333381	352104	371879	392764	414821
4	Public Water Works	19709	21393	23221	25205	27358
5	Agriculture-Unmetered	154182	154182	154182	154182	154182
6	Agriculture-Metered	179386	204386	229386	254386	279386
7	Street Light	12617	13505	14455	15472	16560
	<b>Sub-Total</b>	<b>3330198</b>	<b>3467721</b>	<b>3609668</b>	<b>3756224</b>	<b>3907585</b>
	<b>HIGH TENSION</b>					
1	Industrial HT	3594	3933	4303	4709	5153
2	Railway Traction	0	0	0	0	0
	<b>Sub Total</b>	<b>3594</b>	<b>3933</b>	<b>4303</b>	<b>4709</b>	<b>5153</b>
	<b>TOTAL</b>	<b>3333792</b>	<b>3471654</b>	<b>3613972</b>	<b>3760934</b>	<b>3912738</b>

**Table 5.9 : Projection of Connected Load**

(MW/MVA)

Sr. No.	Category	2016-17	2017-18	2018-19	2019-20	2020-21
	<b>LOW TENSION</b>					
1	RGP	2498	2729	2982	3258	3560
2	GLP	51	56	62	67	74
3	Non-RGP & LTMD	1627	1746	1874	2011	2158
4	Public Water Works	357	382	409	438	468
5	Agriculture-Unmetered	2736	2736	2736	2736	2736
6	Agriculture-Metered	2208	2579	2950	3320	3691
7	Street Light	27	29	32	34	37
	<b>Sub-Total</b>	<b>9504</b>	<b>10257</b>	<b>11043</b>	<b>11864</b>	<b>12724</b>
	<b>HIGH TENSION</b>					
1	Industrial HT	2983	3149	3324	3509	3704
2	Railway Traction	0	0	0	0	0
	<b>Sub Total</b>	<b>2983</b>	<b>3149</b>	<b>3324</b>	<b>3509</b>	<b>3704</b>
	<b>TOTAL</b>	<b>12487</b>	<b>13406</b>	<b>14367</b>	<b>15373</b>	<b>16428</b>



### 5.1.5 Detailed analysis of energy sales projected

The category-wise energy sales, given in **Table 5.1**, for the FY 2010-11 to FY 2015-16 are the actuals, the energy sales for the control period FY 2016-17 to FY 2020-21 are projected based on the 5 year / 4 year/3 year/ 2 year CAGR between the period FY 2010-11 and FY 2015-16 and year on year for the period between the years FY 2014-15 and FY 2015-16.

The percentage contribution of sales by each category in the total sales during the year FY 2015-16 is shown in the Table below:

**Table 5.10: Category wise percentage contribution of sales (2015-16)**

Sr. No.	Customer Category	Sales (MUs)	% Sales
1	RGP	1881	10.90%
2	GLP	41	0.24%
3	Non-RGP & LTMD	1557	9.03%
4	Public Water Works	610	3.54%
5	Agriculture-Unmetered	6219	36.04%
6	Agriculture-Metered	2330	13.50%
7	Street Light	52	0.30%
	<b>Sub-Total</b>	<b>12690</b>	<b>73.55%</b>
	<b>HIGH TENSION</b>		
1	Industrial HT	4550	26.37%
2	Railway Traction	14	0.08%
	<b>Sub Total</b>	<b>4564</b>	<b>26.45%</b>
	<b>TOTAL</b>	<b>17254</b>	<b>100.00%</b>

#### 5.1.5.1 RGP- Residential

The sales to this category constitute about 10.9% of total energy sales of the company.

#### Petitioner's submission

It is submitted by UGVCL that the company has witnessed a CAGR growth rate of 8.14% between FY 2010-11 and FY 2015-16. The company expects this trend to continue for the control period. Moreover, the number of consumers added in the category has witnessed a CAGR of 3.46% between FY 2010-11 and FY 2015-16. The connected load added in the category has witnessed a CAGR of 9.26% between FY 2010-11 and FY 2015-16. The company expects this trend to





continue going forward. UGVCL has projected the energy sales to RGP category for the control period, as given below:

**Table 5.11: Energy sales projected for the residential category during the control period FY 2016-17 to FY 2020-21**

(MUs)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
RGP- Residential	2035	2200	2379	2573	2783

### Commission's Analysis

The growth during the last 5 years was 8.14% and UGVCL expects the same growth rate to be continued for FY 2017-21. The Commission examined the trend of sales growth between FY 2010-11 to FY 2015 -16 and found that the growth rates considered for future projections is appropriate.

The Commission approves the energy sales to the RGP-residential category during the control period, as shown the Table below:

**Table 5.12: Energy sales approved for the residential category during the control period FY 2016-17 to FY 2020-21**

(MUs)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
RGP- Residential	2035	2200	2379	2573	2783

### 5.1.5.2 GLP-General Lighting Purpose

The sales to this category constitute about 0.24% of total energy sales of the company.

#### Petitioner's submission

UGVCL submitted that the 3 year CAGR between FY 2012-13 and FY 2015-16 is 8.34% for this category. The company expects this trend to continue for the control period.

Similarly, the number of consumers added in the category has witnessed a CAGR of 4.52% between FY 2012-13 and FY 2015-16. The company expects this trend to continue going forward. The connected load added in the category has witnessed a CAGR of 9.34% between FY 2012-



13 and FY 2015-16. The company expects this trend to continue going forward. UGVCL has projected the energy sales to this category during the control period FY 2017-21, as shown in the Table below:

**Table 5.13: Energy sales projected for the GLP category during the control period FY 2016-17 to FY 2020-21**

(MUs)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
GLP-General Lighting Purpose	44	48	52	57	61

### Commission's Analysis

The CAGR over the 5-year period FY 2010-11 and FY 2015-16 was negative, due to separation of GLP and Non-RGP & LTMD consumer categories in 2012-13. Therefore, it is apt to consider a more realistic growth rates. The growth over the 3-year period for FY 2012-13 to FY 2015-16 was 8.34%. The growth of 8.34% assumed by the UGVCL is considered reasonable, as the GLP category is likely to maintain the same growth in future years.

The Commission, therefore, approves the energy sales for the control period, as given in the Table below:

**Table 5.14: Energy sales projected for the GLP category during the control period FY 2016-17 to FY 2020-21**

(MUs)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
GLP-General Lighting Purpose	44	48	52	57	61

### 5.1.5.3 Non- RGP & LTMD

The consumption of this category accounts for about 9.03% of the total sales of the company



### Petitioner's submission

The UGVCL has submitted that sales growth between FY 2012-13 and FY 2015-16 has been 5.50%, which is the CAGR over the period. UGVCL has projected the sales to this category during the control period, as given in the Table below:

**Table 5.15: Energy sales projected for the Non-RGP & LTMD category during the control period FY 2016-17 to FY 2020-21**

(MUs)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Non-RGP & LTMD	1643	1733	1829	1929	2035

### Commission's Analysis

It is to be noted that GLP and Non-RGP & LTMD consumer categories were separated in 2012-13. Therefore, to estimate growth rates for the purpose of future projections, base year should be considered as FY 2012-13. The 3 year CAGR for non- RGP & LTMD category, between FY2012-13 to FY2015-16, has been 5.50%, which UGVCL has considered for projecting sales for the of the control period. The Commission approves the sales estimations as considered by UGVCL for the control period.

The Commission approves the energy sales to the 'Non-RGP & LTMD' category during the control period FY 2016-17 to FY 2020-21, as projected by UGVCL and given in the Table below:

**Table 5.16: Energy sales approved for the Non-RGP & LTMD category during the control period FY 2016-17 to FY 2020-21**

(MUs)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Non- RGP & LTMD	1643	1733	1829	1929	2035

#### 5.1.5.4 Public water works

The sales to this category accounts for about 3.54% of the total energy sales of the company



### Petitioner's submission

UGVCL has submitted that 2 year CAGR of 8.52% has been considered as the 5 year CAGR for the category has been 5.71%, which is on a lower side when compared with the 2 year CAGR of 8.52% and y-o-y growth of 6.72%. The company expects this trend to continue during the control period. . UGVCL has projected the sales to this category during the control period, as given in the Table below:

**Table 5.17: Energy sales projected for the public water works category during the control period FY 2016-17 to FY 2020-21**

(MUs)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Public water works	662	718	780	846	918

### Commission's Analysis

The 5 year CAGR (FY 2010-11 to FY 2015-16) of the category is 5.71 % and 3 year CAGR is 5.81% (FY 2012-13 to FY2015-16). However, this consumer category has witnessed increase in terms of growth, as 2 year CAGR (between 2013-14 and FY 2015-16) has been 8.52%. Moreover the category has registered a healthy growth rate of 6.72% y-o-y growth between FY2014-15 and FY 2015-16. Therefore, the Commission approves 8.52% growth rates for this category during the control period appears.

The Commission approves the sales to public water works during the control period, as given in the Table below:

**Table 5.18: Energy sales approved for the public water works category during the control period FY 2016-17 to FY 2020-21**

(MUs)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Public water works	662	718	780	846	918



#### 5.1.5.5 Agriculture

The sales to agriculture (irrigation pumpsets) accounts for about 50% of the total energy sales of the company. The consumption by irrigation pumpsets connected since October, 2000 is metered only and those related to earlier years is not metered.

#### Petitioner's submission

UGVCL has submitted that it has planned to release new connections only under the metered category. For the unmetered category the company has decided not to release any new connections and accordingly has assumed a growth rate of 0% to project the sales, no. of consumers and connected load during the control period.

The company has planned to add new connections during the control period as metered connections, as shown in the Table below.

**Table 5.19 : UGVCL – New Connections to Agriculture Consumers**

Sr. No.	Agriculture Metered	No. of new Connections
1	2016-17	25000
2	2017-18	25000
3	2018-19	25000
4	2019-20	25000
5	2020-21	25000

In order to estimate the metered-agricultural consumption, UGVCL has gone with the same methodology as followed by the Commission in its previous tariff orders i.e. estimating the overall consumption assuming an average consumption, calculated based on the weighted average consumption of the metered category during the past years. However, UGVCL submitted that instead of considering a weighted average consumption figure of the last three years, it has considered weighted average consumption based on the data available for the last five years.

The total sales for each year has been calculated based on the average connected load per consumer for metered and unmetered categories combined in FY 2015-16 and the number of new connection to be added during each year.



**Table 5.20 : UGVCL – Sales to agriculture consumers (metered)**

<b>Agriculture Metered</b>	<b>No. of Connections</b>	<b>Average HP of Discom</b>	<b>HP Increase</b>	<b>MW Increase</b>	<b>Per HP Consumption (KW)</b>	<b>Additional Sale (MUs)</b>
2016-17	25000	20	496950	371	928	461
2017-18	25000	20	496950	371	928	461
2018-19	25000	20	496950	371	928	461
2019-20	25000	20	496950	371	928	461
2020-21	25000	20	496950	371	928	461

The number of connections, unit sales and the load as estimated above have been added to the FY 2015-16 details to arrive at an estimate of the sales projections from this category for control period FY 2016-17 to FY 2020-21.

### **Commission's Analysis**

There is a mix of un-metered and metered consumers in this category. The consumption of un-metered category has been considered at the same level as in 2015-16, as UGVCL has mentioned that there would be no additional unmetered connections in future years. The Commission approves the approach considered by UGVCL.

For metered consumption, UGVCL is taking the consumption of about 928 kWh/HP/annum. The Commission noted that the weighted average consumption of metered consumers during FY 2010-11 and FY 2015-16 is considered for assessing the consumption during the control period for the existing and new metered consumer connections being added during the control period. The weighted average consumption works out to 928 kWh/HP/annum for UGVCL.

Based on the above, the energy consumption for Agriculture consumers is computed during the control period as shown in the Table below:

**Table 5.21: Energy sales approved for the agricultural category during the control period FY 2016-17 to FY 2020-21**

(MUs)

<b>Particulars</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>
Agriculture-Unmetered	6219	6219	6219	6219	6219
Agriculture-Metered	2791	3253	3714	4175	4636



#### 5.1.5.6 Street light

The sales to this category accounts for about 0.3% of total sales of the company.

##### Petitioner's submission

UGVCL has submitted that the sales growth rate of this category is 5.97% during the 5-year period FY 2010-11 to FY 2015-16. The company expects a growth rate of 5.97% to continue during the control period. UGVCL has projected the energy sales of this category for the control period, as given in the Table below:

**Table 5.22: Energy sales projected for the streetlights category during the control period FY 2016-17 to FY 2020-21 (MUs)**

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Street light	55	59	62	66	70

##### Commission's Analysis

The 5-year CAGR and 3-year CAGR are 5.97% and 6.42% respectively. UGVCL has considered growth rate of 5.97% for sales projection. In view of the potential for growth, the growth of 5.97% assumed by the company is approved.

The Commission approves the sales to Streetlights for the control period, as given in the Table below:

**Table 5.23: Energy sales approved for the streetlights category during the control period FY 2016-17 to FY 2020-21**

(MUs)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Streetlights	55	59	62	66	70

#### 5.1.5.7 Industrial (HT)

The sales to this category accounts for about 26.37% of the total sales of the company

##### Petitioner's submission

UGVCL has submitted that the 5 year CAGR growth rate between FY 2010-11 and FY 2015-16 is 6.96% and 3 years CAGR between FY 2012-13 to FY 2015-16 is 6.46%. However, y-o-y industrial



growth rate between FY2014-15 and FY 2015-16 has been 1.81%. UGVCL expects the industry to grow at a slower pace and considers y-o-y growth rate of 1.81% for future industrial sales projections. . UGVCL has projected the sales to this category during the control period as below:

**Table 5.24: Energy sales projected for the industrial HT category during the control period FY 2016-17 to FY 2020-21**

(MUs)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Industrial HT	4632	4716	4802	4889	4977

### Commission's Analysis

The growth rates of this category were 6.96%, 6.46% and 1.81% over 5 year, 3 year and YoY between the period FY 2010-11 and FY 2015-16. UGVCL has adopted a growth rate of 1.81%. Since industrial HT category constitutes around 26.37% of sales for UGVCL, any significant variation in projection of sales could have a large impact on the overall financials of the company. Considering recent slowdown in industrial activity, it is expected that industrial consumption might grow at a slower pace than higher growth trends observed during past years.

Therefore, the growth rate considered by UGVCL for industrial HT sales, 1.81%, has been found appropriate for the projection period. However, such growth rates would be reviewed during the future reviews for the control period.

The Commission, therefore, considers growth rate of 1.81% for projection of sales for the MYT period. The Commission approves the rates to industrial HT consumers for the control period as shown in the Table below.

**Table 5.25: Energy sales approved for the industrial HT category during the control period FY 2016-17 to FY 2020-21**

(MUs)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Industrial HT	4632	4716	4802	4889	4977





#### 5.1.5.8 Railway Traction

The Railway traction load accounts for about 0.08% of the total sales of the company.

#### Petitioner's submission

No projection has been made for sales, consumers and connected load for the control period as the consumer is expected to move out of the company's consumer base, owing to it being deemed licensee.

#### Commission's Analysis

As railways has been declared as deemed licensee, the Commission expects them to move out of the UGVCL system, Hence, the Commission agrees with UGVCL and considers zero sales for this category for the projection period.

The Commission approves the sales to railway traction load, as given in the Table below:

**Table 5.26: Energy sales approved for the railway traction category during the control period FY 2016-17 to FY 2020-21**

(MUs)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Railway traction	0	0	0	0	0

#### 5.1.5.9 Total Energy Sales

Total energy sales, as projected by UGVCL and as approved by the Commission for the control period, are given in the Tables below:

**Table 5.27 : Energy sales projection by UGVCL for FY2016-17 to FY 20120-21**

(MUs)

Sr. No.	Category	2016-17	2017-18	2018-19	2019-20	2020-21
	<b>LOW TENSION</b>					
1	RGP	2035	2200	2379	2573	2783
2	GLP	44	48	52	57	61
3	Non-RGP & LTMD	1643	1733	1829	1929	2035
4	Public Water Works	662	718	780	846	918
5	Agriculture-Unmetered	6219	6219	6219	6219	6219
6	Agriculture-Metered	2791	3253	3714	4175	4636



Sr. No.	Category	2016-17	2017-18	2018-19	2019-20	2020-21
7	Street Light	55	59	62	66	70
	<b>Sub-Total</b>	<b>13449</b>	<b>14230</b>	<b>15035</b>	<b>15865</b>	<b>16722</b>
	<b>HIGH TENSION</b>					
1	Industrial HT	4632	4716	4802	4889	4977
2	Railway Traction	0	0	0	0	0
	<b>Sub Total</b>	<b>4632</b>	<b>4716</b>	<b>4802</b>	<b>4889</b>	<b>4977</b>
	<b>TOTAL</b>	<b>18081</b>	<b>18946</b>	<b>19837</b>	<b>20754</b>	<b>21699</b>

**Table 5.28 : Energy sales approved for UGVCL for FY2016-17 to FY 2020-21 (MUs)**

Sr. No.	Category	2016-17	2017-18	2018-19	2019-20	2020-21
	<b>LOW TENSION</b>					
1	RGP	2035	2200	2379	2573	2783
2	GLP	44	48	52	57	61
3	Non-RGP & LTMD	1643	1733	1829	1929	2035
4	Public Water Works	662	718	780	846	918
5	Agriculture-Unmetered	6219	6219	6219	6219	6219
6	Agriculture-Metered	2791	3253	3714	4175	4636
7	Street Light	55	59	62	66	70
	<b>Sub-Total</b>	<b>13449</b>	<b>14230</b>	<b>15035</b>	<b>15865</b>	<b>16722</b>
	<b>HIGH TENSION</b>					
1	Industrial HT	4632	4716	4802	4889	4977
2	Railway Traction	0	0	0	0	0
	<b>Sub Total</b>	<b>4632</b>	<b>4716</b>	<b>4802</b>	<b>4889</b>	<b>4977</b>
	<b>TOTAL</b>	<b>18081</b>	<b>18946</b>	<b>19837</b>	<b>20754</b>	<b>21699</b>

## 5.2 Distribution losses

UGVCL has projected the distribution losses for the control period, as given below:

**Table 5.29 : Distribution Loss projected for FY 2016-17 to FY 2020-21**

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Distribution Loss	10.00%	9.90%	9.80%	9.70%	9.60%



### Petitioner's submission

The UGVCL has submitted that it has achieved significant reduction in distribution losses during recent years and the efforts will continue and will be enhanced.

It is further submitted that the loss reduction is a slow process and becomes increasingly difficult as the loss levels come down.

### Commission's Analysis

The Commission, in its MTR Order dated 29<sup>th</sup> April, 2014 for FY 2015-16, considered the distribution loss of 12%. UGVCL projected the loss level at 10% for FY 2016-17 and further annual reduction of losses by 0.10% for the remaining of the control period. The company aims to reduce the loss level to 9.60% by FY2020-21.

It is to be noted that UGVCL has been able to achieve 11.13% loss level for FY 2015-16. However, sustaining and improving upon such already low loss level figures would be dependent upon various uncontrollable factors, such as change in consumer mix, increase or decrease in LT/ HT consumption etc. Therefore, the Commission approves the loss level as projected by UGVCL.

The Commission approves the distribution loss trajectory for the control period, as given in the Table below:

**Table 5.30 : Distribution Loss approved for FY 2016-17 to FY 2020-21**

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Distribution Loss	10.00%	9.90%	9.80%	9.70%	9.60%

## 5.3 Energy requirement

The total energy requirement of a distribution company to meet the total demand of its consumers would be the sum of estimated energy sales and the system losses (Distribution losses), as approved by the Commission.

The estimated energy sales, the distribution losses and estimated energy requirement for the control period FY 2016-17 to 2020-21, as projected by UGVCL are given in the Table below:



**Table 5.31 : Energy requirement projected for FY 2016-17 to FY 2020-21**

Sr. No.	Particulars	Unit	2016-17	2017-18	2018-19	2019-20	2020-21
1	Energy Sales	MUs	18081	18946	19836	20752	21698
2	Distribution Losses	MUs	2009	2082	2155	2229	2304
		%	10.00%	9.90%	9.80%	9.70%	9.60%
3	<b>Energy Requirement</b>	<b>MUs</b>	<b>20090</b>	<b>21028</b>	<b>21991</b>	<b>22981</b>	<b>24002</b>

### Commission's Analysis

Based on the energy sales and the distribution losses approved by the Commission, the energy requirement is arrived at, as given in the Table below:

**Table 5.32 : Energy requirement approved for FY 2016-17 to FY 2020-21**

Sr. No.	Particulars	Unit	2016-17	2017-18	2018-19	2019-20	2020-21
1	Energy Sales	MUs	18081	18946	19836	20752	21698
2	Distribution Losses	MUs	2009	2082	2155	2229	2304
		%	10.00%	9.90%	9.80%	9.70%	9.60%
3	<b>Energy Requirement</b>	<b>MUs</b>	<b>20090</b>	<b>21028</b>	<b>21991</b>	<b>22981</b>	<b>24002</b>

### 5.3.1 Energy balance

The summary of energy balance projected by UGVCL is as given below:

**Table 5.33 : Energy Balance projected for FY 2016-17 to FY 2020-21**

Sr. No.	Particulars	Unit	2016-17	2017-18	2018-19	2019-20	2020-21
1	Energy Sales	MUs	18081	18946	19836	20752	21698
2	Distribution Losses	MUs	2009	2082	2155	2229	2304
		%	10.00%	9.90%	9.80%	9.70%	9.60%
3	Energy Requirement	MUs	20090	21027	21991	22982	24003
4	Transmission Losses	MUs	804	831	881	908	961
		%	3.85%	3.80%	3.85%	3.80%	3.85%
5	Total Energy to be input to Transmission System	MUs	20895	21858	22871	23889	24964



Sr. No.	Particulars	Unit	2016-17	2017-18	2018-19	2019-20	2020-21
6	Pooled Losses in PGCIL System	MUs	336	336	336	336	336
7	<b>Total Energy Requirement</b>	MUs	<b>21231</b>	<b>22194</b>	<b>23207</b>	<b>24226</b>	<b>25300</b>

### Commission's Analysis

UGVCL has considered the transmission loss of 3.85% for FY 2016-17, FY 2018-19 and FY 2020-21. However the company has considered 3.80% as transmission loss for FY 2017-18 and FY2019-20.

The Commission has approved transmission loss as 3.85% for GETCO and the total energy requirement is computed with transmission loss of 3.85% for the entire control period. The Commission approves the pooled losses, which are determined by the RLDC as projected by UGVCL, subject to review in the truing up. Based on the approved energy sales, distribution losses and transmission losses, the approved energy balance is as given in the Table below:

**TABLE 5.34 : Energy Balance approved for FY 2016-17 to FY 2020-21**

Sr. No.	Particulars	Unit	2016-17	2017-18	2018-19	2019-20	2020-21
1	Energy Sales	MUs	18081	18946	19836	20752	21698
2	Distribution Losses	MUs	2009	2082	2155	2229	2304
		%	10.00%	9.90%	9.80%	9.70%	9.60%
3	Energy Requirement	MUs	20090	21027	21991	22982	24003
4	Transmission Losses	MUs	804	842	881	920	961
		%	3.85%	3.85%	3.85%	3.85%	3.85%
5	Total Energy to be input to Transmission System	MUs	20895	21869	22871	23902	24964
6	Pooled Losses in PGCIL System	MUs	336	336	336	336	336
7	<b>Total Energy Requirement</b>	<b>MUs</b>	<b>21231</b>	<b>22206</b>	<b>23207</b>	<b>24238</b>	<b>25300</b>



## **5.4 Revenue Requirement for the control period FY 2016-17 to FY 2020-21**

The components for calculation of revenue requirement (total expenses) for the control period 2016-17 to FY 2020-21 are as follows:

- Power purchase cost
- Operation and maintenance expenses
- Depreciation
- Interest on loans and finance charges
- Interest on working capital
- Provision for bad debts
- Return on equity
- Provision for tax

The projected expenses by UGVCL under each head and the analysis and decisions of the Commission are discussed below:

## **5.5 Power Purchase cost**

### **5.5.1 Bulk supply tariff**

#### **Petitioner's submission**

The Company has submitted that when the erstwhile Gujarat Electricity Board (GEB) was unbundled into seven entities, it was decided by the State Government that Gujarat Urja Vikas Nigam Limited (GUVNL) shall purchase the entire power requirement from GSECL, central generating stations, traders, MPPs, IPPs and any other source to meet the demand of DISCOMs and shall perform the activity of bulk supplier of power to all the four Distribution companies at bulk supply tariff. In accordance with the arrangement related to power procurement, the distribution licensees have entered into bulk supply arrangement / agreement with GUVNL to



meet the supply obligation.

It is also submitted by UGVCL that the State Government, as envisaged, shall ensure uniform retail supply tariff in the four DISCOMs (of the unbundled GEB), so that the consumers in the similar category in the State could have a similar tariff.

It is further submitted that since 70% - 80% of the total cost incurred by DISCOMs is for power purchase, the same plays a major role in determining the ARR, as well as gap / (surplus) for the DISCOMS, for a particular year. Since the consumer profile and consumption pattern are different in the four distribution companies, the revenue earning capabilities of each of the DISCOMs differs - resulting in different Annual Revenue Requirement. Therefore, it is necessary to build a mechanism in the projection to bring them to a level-playing field. This is proposed to be achieved through differential bulk supply tariff (BST) to each of the DISCOMs which has already been adopted by the Commission in the previous tariff orders. This would ensure uniform retail consumer tariffs in the four Discoms.

## **5.5.2 Power purchase sources**

### **Petitioner's submission**

The various sources of power purchase by GUVNL consist of: State generating plants (GSECL), central sector – NTPC and NPC, renewable sources of power – hydro, solar and wind, IPPs, other sources, etc. The power purchase sources have been differentiated into existing and additional capacity envisaged during the control period.

#### **(i) Existing capacity with GUVNL**

The existing capacity contracted by GUVNL, consists of: GSECL plants, IPPs, central sector plants and renewable sources. The names of the existing power plants, their operational parameters, capacity allocated to GUVNL, their fixed cost as per capacity contracted, along with



the variable cost of generation per unit are given below:

**Table 5.35 : Existing capacity allocation with GUVNL**

Sr. No.	Name of the Station	Rated Capacity allocated to GUVNL (MW)	AUX (%)	PLF in FY16 (%)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)
	GSECL					
1	GSECL-Gandhinagar V	210	9%	76%	133	3.19
2	GSECL-Wanakbori VII	210	9%	59%	97	3.01
3	GSECL-Utran Gas Based	135	3%	0%	53	4.64
4	GSECL-Utran Extension	375	3%	39%	257	3.95
5	GSECL-Dhuvaran VII	107	3%	10%	51	2.67
6	GSECL-Dhuvaran VIII	112	3%	33%	53	3.31
7	GSECL-Ukai	850	9%	38%	309	2.92
8	GSECL-Ukai Expansion 6	500	6%	56%	573	2.48
9	GSECL-Gandhinagar I-IV	660	10%	22%	250	3.77
10	GSECL-Wanakbori I- VI	1260	9%	42%	392	3.37
11	GSECL-Sikka	240	12%	16%	127	4.51
12	GSECL-Sikka Expansion	500	9%	12%	343	2.36
13	GSECL-Kutch Lignite I-III	215	12%	67%	231	1.32
14	GSECL-Kutch Lignite IV	75	12%	45%	63	1.20
15	GSECL-Ukai Hydro	305	1%	18%	24	-
16	GSECL-Kadana Hydro	242	1%	14%	63	-
17	GSECL-Dhuvaran CCPP III	376	3%	0%	204	4.88
	Sub Total	6372			3223	
	<b>IPP's</b>					
1	GPEC	655	3%	16%	405	3.20
2	GSEG	156	3%	10%	66	2.59
3	GSEG Expansion	351	-	0%	188	4.29
4	GIPCL II (165 MW)	165	3%	17%	51	3.33
5	GIPCL (SLPP)	250	10%	73%	124	1.54
6	GMDC	250	10%	61%	144	0.93
7	GIPCL-I (145 MW)	42	3%	8%	10	4.48
8	GIPCL (SLPP - Exp)	250	10%	64%	270	1.70
9	GPPC Pipavav	702	3%	8%	386	5.49
10	APL	2000	-	82%	1554	1.59
11	CGPL	1805	-	73%	1150	1.60
12	Essar	1000	-	50%	795	1.74
13	ACBL	200	-	83%	208	0.66
	<b>Sub Total</b>	<b>7826</b>			<b>5351</b>	
	<b>Central Sector</b>					





Sr. No.	Name of the Station	Rated Capacity allocated to GUVNL (MW)	AUX (%)	PLF in FY16 (%)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)
1	NPC-Tarapur (1 & 2)	160	10%	47%	-	1.00
2	NPC-Tarapur (3 & 4)	274	10%	97%	-	2.89
3	NPC-Kakrapar	125	13%	53%	-	2.39
4	NTPC-Vindhyachal - I	230	9%	65%	94	1.61
5	NTPC-Vindhyachal - II	239	7%	69%	99	1.58
6	NTPC-Vindhyachal - III	266	7%	85%	194	1.52
7	NTPC-Korba	360	7%	90%	116	1.09
8	NTPC-Korba -II	96	7%	89%	87	1.08
9	NTPC-Kawas	187	3%	39%	94	2.94
10	NTPC-Jhanor	237	3%	25%	148	2.96
11	NTPC-Sipat-I	540	7%	84%	488	1.19
12	NTPC-Sipat - II	273	7%	93%	238	1.22
13	NTPC-Kahlagaon	141	7%	43%	106	2.15
14	NTPC-Vindhyachal - IV	240	7%	78%	254	1.61
15	NTPC-Mauda	240	7%	28%	402	3.03
16	NTPC-Vindhyachal - V	93	7%	77%	82	1.51
17	SSNNL	232	-	16%	-	2.04
	<b>Sub Total</b>	<b>3933</b>			<b>2402</b>	
	<b>Others</b>					
1	Captive Power	8	-	8%	-	2.17
	<b>Renewable</b>					
1	Wind Farms	2508	-	19%	-	3.55
2	Solar	861	-	18%	-	13.38
3	Small/Mini Hydel	10	-	53%	-	3.39
4	Biomass	30	-	0.3%	-	4.15
	<b>Sub Total</b>	<b>3417</b>			-	
	<b>TOTAL</b>	<b>21548</b>			<b>10976</b>	

## II. Capacity Addition from FY 2016-17 to 2020-21

The capacity addition plan which includes capacity additions of GSECL, Central stations and IPPs is presented in the table below with details of the capacity allocated to GUVNL and their unit wise tentative commissioning schedule. It is submitted that the PPA is already signed for the stations listed below and are expected to get commissioned during the control period FY 2016-17 to FY



2020-21.

**Table 5.36 : New capacity addition from FY 2016-17 to FY 2020-21**

Sr. No.	Name of the Station	Ownership	Fuel Type	Rated Capacity allocated to GUVNL (MW)	Date of Commissioning
1	Bhavnagar Energy- Unit 1	State	Lignite	250	May-16
2	Bhavnagar Energy- Unit 2	State	Lignite	250	Jan-17
3	Mouda Stage II- Unit 1	Central	Coal	147	Dec-16
4	Lara- Unit 1	Central	Coal	140	May-17
5	Mouda Stage II- Unit 2	Central	Coal	147	Apr-17
6	Gadarwara STPP Stage I-Unit 1	Central	Coal	110	Aug-17
7	Gadarwara STPP Stage I-Unit 2	Central	Coal	110	Feb-18
8	Lara- Unit 2	Central	Coal	140	Dec-17
9	NPCIL Kakrapar Extension- Unit 1	Central	Nuclear	238	Nov-17
10	NPCIL Kakrapar Extension- Unit 2	Central	Nuclear	238	May-18
11	Wanakbori Ext Unit 8	State	Coal	800	Apr-18
12	North Karanpura- Unit 1	Central	Coal	77	Apr-19
13	North Karanpura- Unit 2	Central	Coal	77	Oct-19
14	North Karanpura- Unit 3	Central	Coal	77	Apr-20
15	Khargone STPP- Unit 1	Central	Coal	110	Jul-19
16	Khargone STPP- Unit 2	Central	Coal	110	Jan-20
17	Dhuvaran STPS	State	Coal	1600	Apr-20
	<b>TOTAL</b>			<b>4621</b>	

The capacity addition envisaged during the control period is 4,621 MW. The operational parameters, annual fixed cost and variable cost per unit for these plants is given below. The Annual Fixed Cost and the availability from the envisaged capacity during each year of the control period have been considered on pro-rata basis depending upon the tentative date of



commissioning.

**Table 5.37 : Additional Capacity envisaged for FY 2016-17 to FY 2020-21**

Sr. No.	Name of the Station	Rated Capacity allocated to GUVNL (MW)	Plant Load Factor (%)	Auxiliary Consumption (%)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)
1	BECL U#1	250	80%	12%	439	2.15
2	BECL U#2	250	80%	12%	439	2.15
3	NTPC-Mauda Stage II U#1	147	85%	6%	190	2.50
4	NTPC-Lara U#1	140	85%	6%	207	1.50
5	NTPC-Mauda Stage II U#2	147	85%	6%	190	2.50
6	NTPC-Gadarwara Stage-I U#1	110	85%	6%	110	1.50
7	NTPC-Gadarwara Stage-I U#2	110	85%	6%	110	1.50
8	NTPC-Lara U#2	140	85%	6%	207	1.50
9	NPC Kakrapar Ext U#1	238	85%	13%	120	2.38
10	NPC Kakrapar Ext U#2	238	85%	13%	120	2.38
11	GSECL Wanakbori Ext U#8	800	85%	6%	905	2.94
12	NTPC-North Karanpura U#1	77	85%	6%	85	1.50
13	NTPC-North Karanpura U#2	77	85%	6%	85	1.50
14	NTPC-North Karanpura U#3	77	85%	6%	85	1.50
15	NTPC-Khargone U#1	110	85%	6%	110	1.50
16	NTPC-Khargone U#2	110	85%	6%	110	1.50
17	GSECL Dhuvaran STPS	1600	85%	6%	1284	2.94
	<b>TOTAL</b>	<b>4621</b>				

### **III. Decommissioning of Plants / Expiry of Term of PPAs**

Some of the existing power plants have not been considered while projecting the availability of power during the control period due to reasons such as expiry of PPAs or de-commissioning of power plant. The table below lists down the plants along with the tentative timeline of decommissioning of Plants / Expiry of PPAs. The same have only been included to the extent of



months of operation while projecting the power availability and cost during the relevant year.

**Table 5.38: Decommissioning/ PPA expiry of plants**

Sr. No.	Name of the Station	Rated Capacity allocated to GUVNL (MW)	Fuel Type	Month/Year	Remarks
1	GIPCL II (165 MW)	165	Gas	Aug-2016	PPA expiry
2	GSECL-Gandhinagar I & II	240	Coal	Sep-2016	Decommissioning
4	GSECL-Utran	135	Gas	Feb-2017	PPA Expiry
5	GPEC	655	Gas	Jan-2018	PPA expiry
6	GSECL-Ukai I & II	240	Coal	Mar-2018	Decommissioning
7	GSECL-Sikka	240	Coal	Mar-2018	Decommissioning
	<b>Total</b>	<b>1675</b>			

#### **IV. Renewable Purchase Obligation**

In accordance with GERC (Procurement of Energy from Renewable Sources) Regulations, 2010 and its Amendment in 2014, the Discoms are obligated to procure electricity (in kWh) from renewable energy sources, at a defined minimum percentage of the total consumption of its consumers including T&D losses during a year. The percentage of procurement is defined from FY 2010-11 to FY 2016-17. The minimum Renewable Energy purchase in FY 2016-17 is 1.75% from Solar, 7.75% from Wind and 0.5% from others sources like Biomass, Bagasse, MSW, etc.

As per the clause 6.4 of the National Tariff Policy 2016, dated 28<sup>th</sup> January 2016 the states are required to achieve the target of 8% Solar RPO by FY 2021-22. The relevant extract from the Tariff Policy is given below:

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

*(i) 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 this 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.

Since the RPO Target has yet to be decided by the Commission for FY 2017-18 onwards, for projection purposes RPO trajectory has been assumed with gradual increase in each year taking into consideration various directives from MoP, MNRE & NTP amendments etc. The RPO Target trajectory projected has been shown as under:

**Table 5.39: RPO Target**

(%)

Description	Solar	Wind	Others (Biomass, Small Hydro, Bagasse, MSW)
2016-17	1.75%	7.75%	0.50%
2017-18	3.00%	7.85%	0.50%
2018-19	4.25%	7.95%	0.50%
2019-20	5.50%	8.05%	0.75%
2020-21	6.75%	8.15%	0.75%

### 5.5.3 Methodology for Forecasting Power Purchase Cost

In order to optimise the power purchase cost, comprehensive Merit Order Dispatch (MOD) has been worked out from the dispatch available from tied up generating capacities. The dispatch from individual generating stations is worked out based on the merit order of the variable cost of each generating unit as follows:

- The NPC power plants, renewable and hydro plants have been considered as must run power plants.
- Dispatch from Gas based power plants (other than plants running on APM Gas) is considered at 1% due to the high variable cost.
- For APM Gas based power plants, dispatch is arrived in accordance with the Merit order Dispatch principle considering availability at only 40%.
- During merit order despatch, at least 5% availability of each plant has been considered to take care of the peak loads and peak season requirements.



- Availability of Thermal Stations has been considered at 85% / 80% as defined in Regulations (CERC/GERC) and performance in previous years.
- The Fixed & Variable Cost for existing GSECL, IPP, renewable and central sector plants is taken as per actuals of FY 2015-16 as base power purchase cost.

#### 5.5.4 Power Purchase and Costs

The plant-wise dispatchable energy and costs of purchase by GUVNL from various plants of GSECL, Central Generating Stations, IPPs and other sources consists of fixed and variable cost. The dispatched MUs based on merit order stacking consists both for supplying power to Discoms as well as for trading purpose.

**Table 5.40: Projected Power Purchase cost for FY 2016-17**

Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
	GSECL						
1	GSECL-Gandhinagar V	1339	84	133	3.19	27	159
2	GSECL-Wanakbori VII	1339	84	97	3.01	25	122
3	GSECL-Utran	556	9	43	4.64	4	47
4	GSECL-Utran Exp	1912	32	257	3.95	13	269
5	GSECL-Dhuvaran VII	362	362	51	2.67	97	148
6	GSECL-Dhuvaran VIII	382	48	53	3.31	16	69
7	GSECL-Ukai	5421	708	309	2.92	207	515
8	GSECL-Ukai Exp	3294	3294	573	2.48	818	1391
9	GSECL-Gandhinagar I-IV	3280	205	197	3.77	77	274
10	GSECL-Wanakbori I- VI	8035	502	392	3.37	169	562
11	GSECL-Sikka	1480	93	127	4.51	42	169
12	GSECL-Sikka Exp	3189	3189	343	2.36	753	1096
13	GSECL-Kutch Lignite I-III	1243	1243	231	1.32	164	395
14	GSECL-Kutch Lignite IV	463	463	63	1.20	56	118
15	GSECL-Ukai Hydro	478	478	24	0.00	0	24
16	GSECL-Kadana Hydro	287	287	63	0.00	0	63
17	GSECL-Dhuvaran CCPP III	1917	32	204	4.88	16	220
	<b>Sub Total</b>	<b>34977</b>	<b>11111</b>	<b>3159</b>		<b>2482</b>	<b>5641</b>
	<b>IPP</b>						
1	GPEC	3339	56	405	3.20	18	423



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
2	GSEG	795	13	66	2.59	3	69
3	GSEG Exp	1845	31	188	4.29	13	201
4	GIPCL II (165 MW)	280	5	17	3.33	2	18
5	GIPCL (SLPP)	1433	1433	124	1.54	221	345
6	GMDC	1577	1577	144	0.93	146	290
7	GIPCL-I (145 MW)	214	4	10	4.48	2	12
8	GIPCL (SLPP - Exp)	1265	1265	270	1.70	215	486
9	GPPC Pipavav	472	60	386	5.49	33	419
10	APL	14892	14892	1554	1.59	2364	3918
11	CGPL	12649	12649	1150	1.60	2029	3179
12	Essar	7446	7446	795	1.74	1298	2093
13	ACBL	1489	1489	208	0.66	98	306
14	BECL	1799	1799	512	2.15	387	899
	<b>Sub Total</b>	<b>49496</b>	<b>42717</b>	<b>5831</b>		<b>6827</b>	<b>12658</b>
	<b>Central Sector</b>						
1	NPC-Tarapur (1 & 2)	1072	1072	0	1.00	107	107
2	NPC-Tarapur (3 & 4)	1836	1836	0	2.89	530	530
3	NPC-Kakrapar	814	814	0	2.39	195	195
4	NTPC-Vindhyachal - I	1467	1467	94	1.61	236	330
5	NTPC-Vindhyachal - II	1566	1566	99	1.58	247	346
6	NTPC-Vindhyachal - III	1859	1852	194	1.52	281	475
7	NTPC-Korba	2506	2506	116	1.09	273	390
8	NTPC-Korba -II	668	668	87	1.08	72	159
9	NTPC-Kawas	636	79	94	2.94	23	117
10	NTPC-Jhanor	806	101	148	2.96	30	178
11	NTPC-Sipat-I	3759	3759	488	1.19	448	937
12	NTPC-Sipat - II	1901	1901	238	1.22	231	469
13	NTPC-Kahlagaon	924	924	106	2.15	198	304
14	NTPC-Vindhyachal - IV	1573	1573	254	1.61	253	507
15	NTPC-Mauda	1573	98	402	3.03	30	432
16	NTPC-Vindhyachal - V	612	612	82	1.51	92	174
17	SSNNL	335	335	0	2.04	68	68
18	NTPC-Mauda Stage II U#1	344	344	63	2.50	86	149
	<b>Sub Total</b>	<b>24251</b>	<b>21509</b>	<b>2466</b>		<b>3403</b>	<b>5869</b>
	<b>Others</b>						
1	Captive Power	6	6	0	2.17	1	1
	Renewable						
1	Wind	4280	4280	0	3.55	1521	1521



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
2	Solar	1368	1368	0	13.38	1831	1831
3	Small/Mini Hydel	45	45	0	3.39	15	15
4	Biomass	1	1	0	4.15	0	0
5	Solar(New)	67	67	0	4.50	30	30
6	Wind (New)	2079	2079	0	4.19	871	871
7	Others (New)	365	365	0	6.00	219	219
	Sub Total	8210	8210	0		4489	4489
	<b>TOTAL</b>	<b>116934</b>	<b>83548</b>	<b>11456</b>		<b>17201</b>	<b>28657</b>

**Table 5.41: Projected Power Purchase Cost for the FY 2017-18**

Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
	GSECL						
1	GSECL-Gandhinagar V	1339	84	133	3.19	27	159
2	GSECL-Wanakbori VII	1339	84	97	3.01	25	122
3	GSECL-Utran Exp	1912	32	257	3.95	13	269
4	GSECL-Dhuvaran VII	362	45	51	2.67	12	63
5	GSECL-Dhuvaran VIII	382	48	53	3.31	16	69
6	GSECL-Ukai	5421	339	417	2.92	99	516
7	GSECL-Ukai Exp	3294	2970	573	2.48	737	1311
8	GSECL-Gandhinagar I-IV	2649	166	159	3.77	62	222
9	GSECL-Wanakbori I- VI	8035	502	392	3.37	169	562
10	GSECL-Sikka	1480	93	294	4.51	42	336
11	GSECL-Sikka Exp	3189	3189	343	2.36	753	1096
12	GSECL-Kutch Lignite I-III	1243	1243	231	1.32	164	395
13	GSECL-Kutch Lignite IV	463	463	63	1.20	56	118
14	GSECL-Ukai Hydro	478	478	24	0.00	0	24
15	GSECL-Kadana Hydro	287	287	63	0.00	0	63
16	GSECL-Dhuvaran CCPP III	1917	32	204	4.88	16	220
	<b>Sub Total</b>	<b>33790</b>	<b>10052</b>	<b>3353</b>		<b>2190</b>	<b>5543</b>
	<b>IPP</b>						
1	GPEC	2226	42	270	3.20	13	283
2	GSEG	795	13	66	2.59	3	69
3	GSEG Exp	1845	31	188	4.29	13	201
4	GIPCL (SLPP)	1433	1433	124	1.54	221	345





Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
5	GMDC	1577	1577	144	0.93	146	290
6	GIPCL-I (145 MW)	214	4	10	4.48	2	12
7	GIPCL (SLPP - Exp)	1265	1265	270	1.70	215	486
8	GPPC Pipavav	472	60	386	5.49	33	419
9	APL	14892	14892	1554	1.59	2364	3918
10	CGPL	12649	12649	1150	1.60	2029	3179
11	Essar	7446	7446	795	1.74	1298	2093
12	ACBL	1489	1489	208	0.66	98	306
13	BECL	3084	3084	879	2.15	663	1541
	Sub Total	49387	43984	6045		7098	13143
	<b>Central Sector</b>						
1	NPC-Tarapur (1 & 2)	1072	1072	0	1.00	107	107
2	NPC-Tarapur (3 & 4)	1836	1836	0	2.89	530	530
3	NPC-Kakrapar	814	814	0	2.39	195	195
4	NTPC-Vindhyachal - I	1467	1467	94	1.61	236	330
5	NTPC-Vindhyachal - II	1566	1566	99	1.58	247	346
6	NTPC-Vindhyachal - III	1859	1852	194	1.52	281	475
7	NTPC-Korba	2506	2506	116	1.09	273	390
8	NTPC-Korba –II	668	668	87	1.08	72	159
9	NTPC-Kawas	636	79	94	2.94	23	117
10	NTPC-Jhanor	806	101	148	2.96	30	178
11	NTPC-Sipat-I	3759	3759	488	1.19	448	937
12	NTPC-Sipat - II	1901	1901	238	1.22	231	469
13	NTPC-Kahlagaon	924	924	106	2.15	198	304
14	NTPC-Vindhyachal - IV	1573	1573	254	1.61	253	507
15	NTPC-Mauda	1573	98	402	3.03	30	432
16	NTPC-Vindhyachal - V	612	612	82	1.51	92	174
17	SSNNL	335	335	0	2.04	68	68
18	NTPC-Mauda Stage II U#1	1032	61	190	2.50	15	205
19	NTPC-Lara U#1	901	901	190	1.50	135	325
20	NTPC-Mauda Stage II U#2	1032	61	190	2.50	15	205
21	NTPC-Gadarwara U#1	515	515	73	1.50	77	151
22	NTPC-Gadarwara U#2	129	129	18	1.50	19	38
23	NTPC-Lara U#2	327	327	69	1.50	49	118
24	NPC Kakrapar Ext U#1	642	642	50	2.38	153	203
	Sub Total	28484	23800	3183		3781	6964
	<b>Others</b>						
1	Captive Power	6	6	0	2.17	1	1



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
	Renewable						
1	Wind	4280	4280	0	3.55	1521	1521
2	Solar	1368	1368	0	13.38	1831	1831
3	Small/Mini Hydel	45	45	0	3.39	15	15
4	Biomass	1	1	0	4.15	0	0
5	Solar(New)	1215	1215	0	4.50	547	547
6	Wind (New)	2480	2480	0	4.19	1039	1039
7	Others (New)	385	385	0	6.00	231	231
	Sub Total	9780	9780	0		5185	5185
	<b>Total</b>	<b>121441</b>	<b>87616</b>	<b>12582</b>		<b>18254</b>	<b>30835</b>

**Table 5.42: Projected Power Purchase Cost for the FY 2018-19**

Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
	GSECL						
1	GSECL-Gandhinagar V	1339	84	133	3.19	27	159
2	GSECL-Wanakbori VII	1339	84	97	3.01	25	122
3	GSECL-Utran Exp	1912	32	257	3.95	13	269
4	GSECL-Dhuvaran VII	362	45	51	2.67	12	63
5	GSECL-Dhuvaran VIII	382	48	53	3.31	16	69
6	GSECL-Ukai	3890	243	221	2.92	71	292
7	GSECL-Ukai Exp	3294	1688	573	2.48	419	992
8	GSECL-Gandhinagar I-IV	2649	166	159	3.77	62	222
9	GSECL-Wanakbori I- VI	8035	502	392	3.37	169	562
10	GSECL-Sikka Exp	3189	3189	343	2.36	753	1096
11	GSECL-Kutch Lignite I-III	1243	1243	231	1.32	164	395
12	GSECL-Kutch Lignite IV	463	463	63	1.20	56	118
13	GSECL-Ukai Hydro	478	478	24	0.00	0	24
14	GSECL-Kadana Hydro	287	287	63	0.00	0	63
15	GSECL-Dhuvaran CCPP III	1917	32	204	4.88	16	220
16	GSECL Wanakbori Ext U#8	5608	330	905	2.94	97	1002
	<b>Sub Total</b>	<b>36388</b>	<b>8913</b>	<b>3769</b>		<b>1899</b>	<b>5668</b>
	IPP						
1	GSEG	795	13	66	2.59	3	69
2	GSEG Exp	1845	31	188	4.29	13	201
3	GIPCL (SLPP)	1433	1433	124	1.54	221	345



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
4	GMDC	1577	1577	144	0.93	146	290
5	GIPCL-I (145 MW)	214	4	10	4.48	2	12
6	GIPCL (SLPP - Exp)	1265	1265	270	1.70	215	486
7	GPPC Pipavav	472	60	386	5.49	33	419
8	APL	14892	14892	1554	1.59	2364	3918
9	CGPL	12649	12649	1150	1.60	2029	3179
10	Essar	7446	7446	795	1.74	1298	2093
11	ACBL	1489	1489	208	0.66	98	306
12	BECL	3084	3084	879	2.15	663	1541
	<b>Sub Total</b>	<b>47161</b>	<b>43942</b>	<b>5775</b>		<b>7084</b>	<b>12859</b>
	<b>Central Sector</b>						
1	NPC-Tarapur (1 & 2)	1072	1072	0	1.00	107	107
2	NPC-Tarapur (3 & 4)	1836	1836	0	2.89	530	530
3	NPC-Kakrapar	814	814	0	2.39	195	195
4	NTPC-Vindhyachal - I	1467	1467	94	1.61	236	330
5	NTPC-Vindhyachal - II	1566	1566	99	1.58	247	346
6	NTPC-Vindhyachal - III	1859	1852	194	1.52	281	475
7	NTPC-Korba	2506	2506	116	1.09	273	390
8	NTPC-Korba –II	668	668	87	1.08	72	159
9	NTPC-Kawas	636	79	94	2.94	23	117
10	NTPC-Jhanor	806	101	148	2.96	30	178
11	NTPC-Sipat-I	3759	3759	488	1.19	448	937
12	NTPC-Sipat - II	1901	1901	238	1.22	231	469
13	NTPC-Kahlagaon	924	924	106	2.15	198	304
14	NTPC-Vindhyachal - IV	1573	1573	254	1.61	253	507
15	NTPC-Mauda	1573	98	402	3.03	30	432
16	NTPC-Vindhyachal - V	612	612	82	1.51	92	174
17	SSNNL	335	335	0	2.04	68	68
18	NTPC-Mauda Stage II U#1	1032	61	190	2.50	15	205
19	NTPC-Lara U#1	982	982	207	1.50	147	354
20	NTPC-Mauda Stage II U#2	1032	61	190	2.50	15	205
21	NTPC-Gadarwara U#1	772	772	110	1.50	116	226
22	NTPC-Gadarwara U#2	772	772	110	1.50	116	226
23	NTPC-Lara U#2	982	982	69	1.50	147	216
24	NPC Kakrapar Ext U#1	1542	1542	120	2.38	367	487
25	NPC Kakrapar Ext U#2	1285	1285	100	2.38	306	406
	<b>Sub Total</b>	<b>32306</b>	<b>27622</b>	<b>3499</b>		<b>4546</b>	<b>8045</b>
	Others						
1	Captive Power	6	6	0	2.17	1	1



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
	Renewable						
1	Wind	4280	4280	0	3.55	1521	1521
2	Solar	1368	1368	0	13.38	1831	1831
3	Small/Mini Hydel	45	45	0	3.39	15	15
4	Biomass	1	1	0	4.15	0	0
5	Solar(New)	2477	2477	0	4.50	1115	1115
6	Wind (New)	2913	2913	0	4.19	1220	1220
7	Others (New)	407	407	0	6.00	244	244
	<b>Sub Total</b>	<b>11496</b>	<b>11496</b>	<b>0</b>		<b>5947</b>	<b>5947</b>
	<b>Total</b>	<b>127350</b>	<b>91972</b>	<b>13043</b>		<b>19477</b>	<b>32520</b>

**Table 5.43: Projected Power Purchase Cost for the FY 2019-20**

Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
	GSECL						
1	GSECL-Gandhinagar V	1339	84	133	3.19	27	159
2	GSECL-Wanakbori VII	1339	84	97	3.01	25	122
3	GSECL-Utran Exp	1912	32	257	3.95	13	269
4	GSECL-Dhuvaran VII	362	45	51	2.67	12	63
5	GSECL-Dhuvaran VIII	382	48	53	3.31	16	69
6	GSECL-Ukai	3890	243	221	2.92	71	292
7	GSECL-Ukai Exp	3294	2282	573	2.48	566	1140
8	GSECL-Gandhinagar I-IV	2649	166	159	3.77	62	222
9	GSECL-Wanakbori I- VI	8035	502	392	3.37	169	562
10	GSECL-Sikka Exp	3189	3189	343	2.36	753	1096
11	GSECL-Kutch Lignite I-III	1243	1243	231	1.32	164	395
12	GSECL-Kutch Lignite IV	463	463	63	1.20	56	118
13	GSECL-Ukai Hydro	478	478	24	0.00	0	24
14	GSECL-Kadana Hydro	287	287	63	0.00	0	63
15	GSECL-Dhuvaran CCPP III	1917	32	204	4.88	16	220
16	GSECL Wanakbori Ext U#8	5608	330	905	2.94	97	1002
	<b>Sub Total</b>	<b>36388</b>	<b>9506</b>	<b>3769</b>		<b>2046</b>	<b>5815</b>
	IPP						
1	GSEG	795	13	66	2.59	3	69
2	GSEG Exp	1845	31	188	4.29	13	201
3	GIPCL (SLPP)	1433	1433	124	1.54	221	345



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
4	GMDC	1577	1577	144	0.93	146	290
5	GIPCL-I (145 MW)	214	4	10	4.48	2	12
6	GIPCL (SLPP - Exp)	1265	1265	270	1.70	215	486
7	GPPC Pipavav	472	60	386	5.49	33	419
8	APL	14892	14892	1554	1.59	2364	3918
9	CGPL	12649	12649	1150	1.60	2029	3179
10	Essar	7446	7446	795	1.74	1298	2093
11	ACBL	1489	1489	208	0.66	98	306
12	BECL	3084	3084	879	2.15	663	1541
	<b>Sub Total</b>	<b>47161</b>	<b>43942</b>	<b>5775</b>		<b>7084</b>	<b>12859</b>
	<b>Central Sector</b>						
1	NPC-Tarapur (1 & 2)	1072	1072	0	1.00	107	107
2	NPC-Tarapur (3 & 4)	1836	1836	0	2.89	530	530
3	NPC-Kakrapar	814	814	0	2.39	195	195
4	NTPC-Vindhyachal - I	1467	1467	94	1.61	236	330
5	NTPC-Vindhyachal - II	1566	1566	99	1.58	247	346
6	NTPC-Vindhyachal - III	1859	1852	194	1.52	281	475
7	NTPC-Korba	2506	2506	116	1.09	273	390
8	NTPC-Korba –II	668	668	87	1.08	72	159
9	NTPC-Kawas	636	79	94	2.94	23	117
10	NTPC-Jhanor	806	101	148	2.96	30	178
11	NTPC-Sipat-I	3759	3759	488	1.19	448	937
12	NTPC-Sipat - II	1901	1901	238	1.22	231	469
13	NTPC-Kahlagaon	924	924	106	2.15	198	304
14	NTPC-Vindhyachal - IV	1573	1573	254	1.61	253	507
15	NTPC-Mauda	1573	98	402	3.03	30	432
16	NTPC-Vindhyachal - V	612	612	82	1.51	92	174
17	SSNNL	335	335	0	2.04	68	68
18	NTPC-Mauda Stage II U#1	1032	61	190	2.50	15	205
19	NTPC-Lara U#1	982	982	207	1.50	147	354
20	NTPC-Mauda Stage II U#2	1032	61	190	2.50	15	205
21	NTPC-Gadarwara U#1	772	772	110	1.50	116	226
22	NTPC-Gadarwara U#2	772	772	110	1.50	116	226
23	NTPC-Lara U#2	982	982	69	1.50	147	216
24	NPC Kakrapar Ext U#1	1542	1542	120	2.38	367	487
25	NPC Kakrapar Ext U#2	1542	1542	120	2.38	367	487
26	NTPC-North Karanpura U#1	540	540	85	1.50	81	166
27	NTPC-North Karanpura U#2	270	270	43	1.50	41	83



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
28	NTPC-Khargone U#1	515	515	73	1.50	77	151
29	NTPC-Khargone U#2	193	193	28	1.50	29	56
	Sub Total	34081	29397	3747		4835	8582
	<b>Others</b>						
1	Captive Power	6	6	0	2.17	1	1
	Renewable						
1	Wind	4280	4280	0	3.55	1521	1521
2	Solar	1368	1368	0	13.38	1831	1831
3	Small/Mini Hydel	45	45	0	3.39	15	15
4	Biomass	1	1	0	4.15	0	0
5	Solar(New)	3853	3853	0	4.50	1734	1734
6	Wind (New)	3361	3361	0	4.19	1408	1408
7	Others (New)	666	666	0	6.00	400	400
	<b>Sub Total</b>	<b>13580</b>	<b>13580</b>	<b>0</b>		<b>6910</b>	<b>6910</b>
	<b>TOTAL</b>	<b>131210</b>	<b>96425</b>	<b>13291</b>		<b>20876</b>	<b>34167</b>

**Table 5.44: Projected Power Purchase Cost for the FY 2020-21**

Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
	GSECL						
1	GSECL-Gandhinagar V	1339	84	133	3.19	27	159
2	GSECL-Wanakbori VII	1339	84	97	3.01	25	122
3	GSECL-Utran Exp	1912	32	257	3.95	13	269
4	GSECL-Dhuvaran VII	362	45	51	2.67	12	63
5	GSECL-Dhuvaran VIII	382	48	53	3.31	16	69
6	GSECL-Ukai	3890	243	221	2.92	71	292
7	GSECL-Ukai Exp	3294	2726	573	2.48	677	1250
8	GSECL-Gandhinagar I-IV	2649	166	159	3.77	62	222
9	GSECL-Wanakbori I- VI	8035	502	392	3.37	169	562
10	GSECL-Sikka Exp	3189	3189	343	2.36	753	1096
11	GSECL-Kutch Lignite I-III	1243	1243	231	1.32	164	395
12	GSECL-Kutch Lignite IV	463	463	63	1.20	56	118
13	GSECL-Ukai Hydro	478	478	24	0.00	0	24
14	GSECL-Kadana Hydro	287	287	63	0.00	0	63
15	GSECL-Dhuvaran CCPP III	1917	32	204	4.88	16	220
16	GSECL Wanakbori Ext U#8	5608	330	905	2.94	97	1002



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
17	GSECL Dhuvaran STPS	11217	660	1284	2.94	194	1478
	<b>Sub Total</b>	<b>47604</b>	<b>10610</b>	<b>5053</b>		<b>2351</b>	<b>7403</b>
	<b>IPP</b>						
1	GSEG	795	13	66	2.59	3	69
2	GSEG Exp	1845	31	188	4.29	13	201
3	GIPCL (SLPP)	1433	1433	124	1.54	221	345
4	GMDC	1577	1577	144	0.93	146	290
5	GIPCL-I (145 MW)	214	4	10	4.48	2	12
6	GIPCL (SLPP - Exp)	1265	1265	270	1.70	215	486
7	GPPC Pipavav	472	60	386	5.49	33	419
8	APL	14892	14892	1554	1.59	2364	3918
9	CGPL	12649	12649	1150	1.60	2029	3179
10	Essar	7446	7446	795	1.74	1298	2093
11	ACBL	1489	1489	208	0.66	98	306
12	BECL	3084	3084	879	2.15	663	1541
	<b>Sub Total</b>	<b>47161</b>	<b>43942</b>	<b>5775</b>		<b>7084</b>	<b>12859</b>
	<b>Central Sector</b>						
1	NPC-Tarapur (1 & 2)	1072	1072	0	1.00	107	107
2	NPC-Tarapur (3 & 4)	1836	1836	0	2.89	530	530
3	NPC-Kakrapar	814	814	0	2.39	195	195
4	NTPC-Vindhyachal - I	1467	1467	94	1.61	236	330
5	NTPC-Vindhyachal - II	1566	1566	99	1.58	247	346
6	NTPC-Vindhyachal - III	1859	1852	194	1.52	281	475
7	NTPC-Korba	2506	2506	116	1.09	273	390
8	NTPC-Korba -II	668	668	87	1.08	72	159
9	NTPC-Kawas	636	79	94	2.94	23	117
10	NTPC-Jhanor	806	101	148	2.96	30	178
11	NTPC-Sipat-I	3759	3759	488	1.19	448	937
12	NTPC-Sipat - II	1901	1901	238	1.22	231	469
13	NTPC-Kahlagaon	924	924	106	2.15	198	304
14	NTPC-Vindhyachal - IV	1573	1573	254	1.61	253	507
15	NTPC-Mauda	1573	98	402	3.03	30	432
16	NTPC-Vindhyachal - V	612	612	82	1.51	92	174
17	SSNNL	335	335	0	2.04	68	68
18	NTPC-Mauda Stage II U#1	1032	61	190	2.50	15	205
19	NTPC-Lara U#1	982	982	207	1.50	147	354
20	NTPC-Mauda Stage II U#2	1032	61	190	2.50	15	205
21	NTPC-Gadarwara U#1	772	772	110	1.50	116	226
22	NTPC-Gadarwara U#2	772	772	110	1.50	116	226





Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs. Cr.)	Total Cost (Rs. Cr.)
23	NTPC-Lara U#2	982	982	69	1.50	147	216
24	NPC Kakrapar Ext U#1	1542	1542	120	2.38	367	487
25	NPC Kakrapar Ext U#2	1542	1542	120	2.38	367	487
26	NTPC-North Karanpura U#1	540	540	85	1.50	81	166
27	NTPC-North Karanpura U#2	540	540	85	1.50	81	166
28	NTPC-North Karanpura U#3	540	540	85	1.50	81	166
29	NTPC-Khargone U#1	772	772	110	1.50	116	226
30	NTPC-Khargone U#2	772	772	110	1.50	116	226
	<b>Sub Total</b>	<b>35728</b>	<b>31044</b>	<b>3994</b>		<b>5082</b>	<b>9076</b>
	<b>Others</b>						
1	Captive Power	6	6	0	2.17	1	1
	Renewable						
1	Wind	4280	4280	0	3.55	1521	1521
2	Solar	1368	1368	0	13.38	1831	1831
3	Small/Mini Hydel	45	45	0	3.39	15	15
4	Biomass	1	1	0	4.15	0	0
5	Solar(New)	5362	5362	0	4.50	2413	2413
6	Wind (New)	3846	3846	0	4.19	1611	1611
7	Others (New)	702	702	0	6.00	421	421
	<b>Sub Total</b>	<b>15609</b>	<b>15609</b>	<b>0</b>		<b>7814</b>	<b>7814</b>
	<b>Total</b>	<b>146103</b>	<b>101205</b>	<b>14822</b>		<b>22331</b>	<b>37153</b>

### 5.5.5 Transmission and other costs

#### Petitioner's submission

It is submitted by the company that the total power purchase cost for the company for the control period FY 2016-17 to FY 2020-21 also consists of transmission charges, GUVNL charges and SLDC fees and charges and GUVNL costs in addition to fixed and variable charges as mentioned in the above Table.

#### Transmission charges





The transmission charges of GETCO have been considered as per the petition filed by GETCO for Control Period from FY 2016-17 to FY 2020-21. PGCIL charges have been worked out based on the actuals of FY 2015-16 with an escalation of 5% during each year. SLDC Fees & Charges also have been considered as per the petition filed by SLDC for Control Period from FY 2016-17 to FY 2020-21.

Based on the transmission charges for PGCIL and GETCO, the transmission costs included in the calculation of bulk supply tariff of all DISCOMs is given below:

**Table 5.45: Projected Transmission Charges from FY 2016-17 to FY 2020-21**

(Rs Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	PGCIL Charges	1515	1591	1670	1754	1841
2	GETCO Charges	3198	3594	4008	4437	4891
3	SLDC Charges	28	32	35	32	34

### 5.5.6 GUVNL cost

The Company has submitted that GUVNL is entrusted with the function of Bulk Power Purchase on behalf of four Discoms and bulk supply to Discoms for onwards retail supply to consumers, trading of surplus power on behalf of Discoms and the overall coordination between the subsidiary companies. It also undertakes the function of raising and managing overall loan portfolio of GUVNL and its subsidiaries. GUVNL is charging Rs.0.04 for every transaction of the unit.

**Table 5.46: GUVNL Cost from FY 2016-17 to FY 2020-21**

(Rs Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	GUVNL Cost at Rs. 0.04 per Unit	334	350	368	386	405



### 5.5.7 Trading

GUVNL has projected trading of surplus energy considering overall power market scenario and assumed it at 1500 MUs for all years of control period which is comparable with actual of FY 2015-16. The cost of Trading of surplus power has been calculated based on average variable cost of the purchase from various power plants. The details of dispatchable MUs including tradable energy projected for each year of the control period are shown in the Table below:

**Table 5.47: Projected Trading MUs from FY 2016-17 to FY 2020-21**

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Total Requirement of four Discoms (MUs)	82048	86116	90472	94925	99705
Projected Tradable Energy (MUs)	1500	1500	1500	1500	1500
Total Dispatchable Units (MUs)	83548	87616	91972	96425	101205

### 5.5.8 Total power purchase cost

The company has furnished the total power purchase cost, consisting of the cost of power purchase from various generating stations, transmission charges of PGCIL and GETCO, SLDC charges, GUVNL costs and trading units. The total fixed costs, due to the capacity contracted, are passed on to the DISCOMs.

**Table 5.48: Fixed cost for DISCOM for FY 2016-17 to FY 2020-21**

(Rs Crores)

Sr. No.	Year	Fixed cost	GETCO Cost	PGCIL Charges	SLDC Charges	Total Fixed Cost	Discom Fixed Cost
1	2016-17	11456	3198	1515	28	16197	16197
2	2017-18	12582	3594	1591	32	17799	17799
3	2018-19	13043	4008	1670	35	18755	18755
4	2019-20	13291	4437	1754	32	19514	19514
5	2020-21	14822	4891	1841	34	21588	21588



The variable cost comprises of the fuel cost, i.e., coal, gas and oil in case of thermal plants and nuclear fuel in case of nuclear plants. It also includes an additional amount of 4 paise per unit payable to GUVNL for the supply of such power. The total variable cost is given in the Table below:

**Table 5.49: Variable Cost for DISCOM for FY 2016-17 to FY 2020-21**

(Rs. Crores)

Sr. No.	Year	Variable cost (Rs. Cr.)	GUVNL Cost (Rs. Cr.)	Total variable Cost (Rs. Cr.)	MUs Dispatch	Average Variable Cost per Unit	DISCOM		TRADING	
							MUs	Variable Cost (Rs. Cr.)	MUs	Variable Cost (Rs. Cr.)
1	2016-17	17201	334	17535	83548	2.10	82048	17220	1500	315
2	2017-18	18254	350	18604	87616	2.12	86116	18286	1500	319
3	2018-19	19477	368	19845	91972	2.16	90472	19521	1500	324
4	2019-20	20876	386	21262	96425	2.21	94925	20931	1500	331
5	2020-21	22331	405	22736	101205	2.25	99705	22399	1500	337

### 5.5.9 Net power purchase cost

It is submitted by the company that trading revenue for GUVNL is calculated, based on per unit variable cost of power plus Rs. 0.50 per unit, which will also include the profit margin and GUVNL's trading margin.

Hence, the revenue earned from sale of power through trading is subtracted from the total power purchase cost for DISCOMs to obtain the net power purchase cost. The net power purchase cost is shown below:



**Table 5.50: Total Power purchase Cost for DISCOM for FY 2016-17 to FY 2020-21**

(Rs Crores)

Sr. No.	Year	Fixed cost	Discom Variable cost	Total Power purchase cost for DISCOMs	Cost related to trading	Contribution from Trading (@ Rs 0.50 per unit)	Total Revenue from trading	Net Cost
1	2016-17	16197	17220	33418	315	75	390	33343
2	2017-18	17799	18286	36085	319	75	394	36010
3	2018-19	18755	19521	38277	324	75	399	38202
4	2019-20	19514	20931	40445	331	75	406	40370
5	2020-21	21588	22399	43987	337	75	412	43912

## 5.6 Power purchase cost- Commission's analysis

### 5.6.1 Bulk supply arrangement

GUVNL is a holding company of the restructured successor companies and is also entrusted with the bulk purchase and bulk sale (trading) of electricity. GUVNL purchases power from various sources on behalf of four Discoms and supplies this to the four distribution companies in bulk. GUVNL has entered into contracts to purchase the entire power requirement from GSECL, central generating companies, IPPs, traders and others to meet the demand of the DISCOMs. Thus, it performs the activity of bulk supplier of power to all the four distribution companies at Bulk Supply Tariff. In accordance with this arrangement, the distribution licensees have entered into bulk supply arrangement with GUVNL to meet their supply obligations.

When the erstwhile Gujarat Electricity Board (GEB) was restructured on a functional basis, the four distribution companies were incorporated on the basis of Zonal configuration existing in the Electricity Board.

Each of the zones, now the distribution companies, have different consumer profile and consumption profile and hence the revenue earning capabilities of each DISCOM differs as well as the Annual Revenue Requirement.



The State Government envisaged a uniform structure of retail supply tariffs in the four DISCOMs so that consumers in similar categories in the State could have similar tariff as in the erstwhile GEB and there may not be any discrimination among the consumers on account of the restructuring.

Since the revenue earning capabilities and the ARR of the four DISCOMs are different, it is necessary to build a mechanism to enable them to have uniform retail tariffs.

Since the power purchase cost contributes 70 to 80% of the total cost incurred by DISCOMs, this factor plays a major role in achieving the level playing field among the DISCOMs for maintaining uniform tariffs in the DISCOMs. In this context the Tariff Policy has provided as under:

***Para 8.4.2 of National Tariff Policy, 2016 states –***

*The National Electricity Policy states that existing PPAs with the generating companies would need to be suitably assigned to the successor distribution companies. The State Governments may make such assignments taking care of different load profiles of the distribution companies so that retail tariffs are uniform in the State for different categories of consumers. Thereafter the retail tariffs would reflect the relative efficiency of distribution companies in procuring power at competitive costs, controlling theft and reducing other distribution losses.*

The Government had earlier assigned the PPAs to different DISCOMs based on the load profile of each DISCOM, but the assignment of PPAs has become a dynamic situation in view of additional capacity that is being added every year, the generation cost of such additional capacity being different. In this situation, uniform tariff by the assignment of PPAs has become difficult.

Even though the distribution companies are improving their performance by reducing the distribution losses etc., the consumer profile and consumption profile is a historical legacy. It would take considerable time for the distribution companies to develop industries and commercial activities for a more favourable consumer mix. Until such time the uniform tariffs have to be maintained in all DISCOMs. In order to maintain uniform tariffs in all DISCOMs the equitable



allocation of PPA is suggested in the Tariff Policy. As stated earlier the allocation has its own limitation. The other alternative of Bulk Supply arrangement is considered more appropriate. Hence the differential Bulk Supply Tariff which provides for uniform tariff across Discoms, is approved by the Commission.

## 5.6.2 Power purchase sources and merit order despatch

### 5.6.2.1 Power purchase sources

As mentioned in **Section 5.5.2**, GUVNL has entered into contract for the existing capacity with GSECL, central generating companies, IPPs and renewable energy sources which were commissioned before 31<sup>st</sup> March, 2016.

GUVNL has also entered into contract for new capacity that is likely to be commissioned during the control period. The details of the new plants likely to be commissioned during the control period are given in **Section 5.5.2**. The quantum contracted from the existing capacity (source-wise) is included in the table below. The total capacity contracted from each of the sources is summarised in the Table below:

**Table 5.51: Existing capacity contracted source-wise by GUVNL**

**(MW)**

Sr. No.	Particulars	Rated capacity allocated to GUVNL (MW) as on 31 <sup>st</sup> March 2016
1	GSECL	6372
2	IPPs	7826
3	Central Generating stations	3933
4	Renewable sources	3409
6	CPP	8
	<b>Total</b>	<b>21548</b>



The details of capacity contracted by GUVNL from the existing plants and the additional plant envisaged during the control period along with the operational, fixed and variable cost are dealt with in the following sections.

#### **5.6.2.2 Power Purchase in merit order**

As discussed earlier in **Section 5.5.3**, GUVNL, in order to optimise the power purchase costs, has worked out a comprehensive merit order dispatch (MOD), as shown below:

- The NPC power plants, renewable and hydro plants have been considered as must run power plants.
- Dispatch from Gas based power plants (other than plants running on APM Gas) is considered at 1% due to the high variable cost.
- For APM Gas based power plants, dispatch is arrived in accordance with the Merit order Dispatch principle considering availability at only 40%.
- During merit order despatch, at least 5% availability of each plant has been considered to take care of the peak loads and peak season requirements.
- Availability of Thermal Stations has been considered at 85% / 80% as defined in Regulations (CERC/GERC) and performance in previous years.
- The Fixed & Variable Cost for existing GSECL, IPP, renewable and central sector plants is taken as per actuals of FY 2015-16 as base power purchase cost.
- The Fixed & Variable Cost for GSECL plants have been considered as per the approved figures of the Commission in the order dated

The quantum of power and the cost as provided by UGVCL/GUVNL are considered on due examination in the following sections, and approved by the Commission.

#### **5.6.2.3 Power purchase during the control period FY 2016-17 to FY 2020-21**

The power purchase for the control period FY 2016-17 to FY 2020-21 is based on the energy requirement of four DISCOMs approved by the Commission. As stated in the preceding paragraphs, the fixed and variable costs of GSECL stations are as approved by the Commission in the Tariff Order dated 31st March, 2017. For purchases from central generating stations, IPPs



and others, the fixed and variable costs are taken based on actuals for FY 2015-16. The power purchase costs for each year of the control period are given in tables below. These include the energy available from each station, as estimated by the Commission, and energy dispatchable, based on merit order.

GUVNL/Discoms has proposed to fulfil the RPO obligation through procurement of renewable power during each year of the control period. The year wise purchase from RE sources, considered by the Commission for MYT Control Period, has been detailed in the **Annexure I** of this order.

GUVNL has communicated vide email dated February 16, 2017 that decommissioning date of CLP plant (655 MW) would be December, 2018 instead of November, 2017 as considered by GUVNL while preparing the merit order for the discoms. The Commission notes the same and considers decommissioning date of CLP plant as December 2018. Therefore, it has impacted the power purchase cost during FY 2017-18 and FY 2018-19, as additional fixed cost of the CLP plant (GPEC) has been added to the overall power purchase cost.

The source-wise power purchase cost for the control period FY 2016-17 to FY 2020-21 as approved by the Commission is given in the Tables below:

**Table 5.52 : Approved Power Purchase Cost for the FY 2016-17**

Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
	<b>GSECL</b>						
1	GSECL Gandhinagar - 5	1339	84	83	4.54	38	121
2	GSECL Wanakbori - 7	1339	84	65	3.09	26	91
3	GSECL Utran	556	9	49	4.77	4	54
4	GSECL Utran Expan	1910	32	250	4.35	14	264
5	GSECL Dhuvaran - 7	362	45	66	3.90	18	84
6	GSECL Dhuvaran - 8	382	48	79	4.07	19	98
7	GSECL Ukai	5421	1025	363	2.90	297	660
8	GSECL Ukai Expan	3294	3294	518	2.52	829	1346
9	GSECL Gandhinagar 1-4	3280	205	237	3.40	70	306





Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
10	GSECL Wanakbori 1-6	8035	502	457	3.27	164	621
11	GSECL Sikka	1480	93	146	3.88	36	181
12	GSECL Sikka Expansion	3189	3189	637	2.43	773	1410
13	GSECL Kutch Lignite	1243	1243	227	1.50	186	413
14	GSECL Kutch Lignite Exp unit 4	463	463	107	1.47	68	175
15	GSECL Ukai Hydro	478	478	40	0.00	0	40
16	GSECL Kadana Hydro	287	287	66	0.00	0	66
17	Dhuvaran CCPP III	1917	32	312	2.26	7	319
	<b>Sub Total</b>	<b>34975</b>	<b>11111</b>	<b>3701</b>		<b>2549</b>	<b>6250</b>
	<b>IPP's</b>						
1	CLP India Pvt Ltd	3339	56	405	3.20	18	423
2	Gujarat State Energy Generation	795	13	66	2.59	3	69
3	Gujarat State Energy Generation Expansion	1845	31	188	4.29	13	201
4	Gujarat Industries Power Co Ltd (165 MW)	280	5	17	3.33	2	18
5	Gujarat Industries Power Co Ltd (SLPP)	1433	1433	124	1.54	221	345
6	Gujarat Mineral Development Corp.	1577	1577	144	0.93	146	290
7	Gujarat Industries Power Co Ltd (145 MW)	214	4	10	4.48	2	12
8	Gujarat Industries Power Co Ltd (SLPP - Exp)	1265	1265	270	1.70	215	486
9	GPPC Pipavav	472	60	386	5.49	33	419
10	Adani Power Ltd	14892	14892	1554	1.59	2364	3918
11	Mundra UMPP CGPL	12649	12649	1150	1.60	2029	3179
12	Essar Power Bid 2	7446	7446	795	1.74	1298	2093
13	ACB India Ltd	1489	1489	208	0.66	98	306
14	BECL	1799	1799	512	2.15	387	899
	<b>Sub Total</b>	<b>49496</b>	<b>42717</b>	<b>5831</b>		<b>6827</b>	<b>12658</b>
	<b>Central Sector</b>						
1	NPC-Tarapur (1 & 2)	1072	1072	0	1.00	107	107
2	NPC-Tarapur (3 & 4)	1836	1836	0	2.89	530	530
3	NPC-Kakrapar	814	814	0	2.39	195	195
4	NTPC-Vindhyachal - I	1467	1467	94	1.61	236	330
5	NTPC-Vindhyachal - II	1566	1566	99	1.58	247	346



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
6	NTPC-Vindhyachal - III	1859	1852	194	1.52	281	475
7	NTPC-Korba	2506	2506	116	1.09	273	390
8	NTPC-Korba -II	668	668	87	1.08	72	159
9	NTPC-Kawas	636	79	94	2.94	23	117
10	NTPC-Jhanor	806	101	148	2.96	30	178
11	NTPC-Sipat-I	3759	3759	488	1.19	448	937
12	NTPC-Sipat - II	1901	1901	238	1.22	231	469
13	NTPC-Kahlagaon	924	924	106	2.15	198	304
14	NTPC-Vindhyachal - IV	1573	1573	254	1.61	253	507
15	NTPC-Mauda	1573	98	402	3.03	30	432
16	NTPC-Vindhyachal - V	612	612	82	1.51	92	174
17	SSNL	335	335	0	2.04	68	68
18	NTPC-Mauda Stage II U#1	344	344	63	2.50	86	149
	<b>Sub Total</b>	<b>24251</b>	<b>21509</b>	<b>2466</b>		<b>3403</b>	<b>5869</b>
	<b>Others</b>						
1	Captive Power	6	6	0	2.17	1	1
	<b>Renewable</b>						
1	Wind Farms	4280	4280	0	3.55	1521	1521
2	Solar	1368	1368	0	13.38	1831	1831
3	Small/Mini Hydal	45	45	0	3.39	15	15
4	Biomass	1	1	0	4.15	0	0
5	Solar(New)	67	67	0	4.50	30	30
6	Wind (New)	2079	2079	0	4.19	871	871
7	Others (New)	365	365	0	6.00	219	219
	<b>Sub Total</b>	<b>8210</b>	<b>8210</b>	<b>0</b>		<b>4489</b>	<b>4489</b>
	<b>TOTAL</b>	<b>116933</b>	<b>83548</b>	<b>11998</b>		<b>17268</b>	<b>29266</b>

**Table 5.53 : Approved Power Purchase Cost for the FY 2017-18**

Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
	<b>GSECL</b>						
1	GSECL Gandhinagar - 5	1339	84	69	3.91	33	101
2	GSECL Wanakbori - 7	1339	84	60	3.09	26	86
3	GSECL Utran Expan	1910	32	247	4.35	14	261
4	GSECL Dhuvaran - 7	362	45	68	3.90	18	86



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
5	GSECL Dhuvaran - 8	382	48	81	4.07	19	101
6	GSECL Ukai	5421	339	364	2.86	97	461
7	GSECL Ukai Expan	3294	1035	506	2.52	260	767
8	GSECL Gandhinagar 1-4	2649	166	188	3.31	55	243
9	GSECL Wanakbori 1-6	8035	502	484	3.27	164	648
10	GSECL Sikka	1480	93	119	3.87	36	155
11	GSECL Sikka Expansion	3189	3189	622	2.43	773	1396
12	GSECL Kutch Lignite	1243	1243	229	1.50	186	415
13	GSECL Kutch Lignite Exp unit 4	463	463	105	1.47	68	173
14	GSECL Ukai Hydro	478	478	31	0.00	0	31
15	GSECL Kadana Hydro	287	287	67	0.00	0	67
16	Dhuvaran CCPP III	1917	32	306	2.26	7	314
	<b>Sub Total</b>	<b>33788</b>	<b>8117</b>	<b>3549</b>		<b>1756</b>	<b>5305</b>
	<b>IPP's</b>						
1	CLP India Pvt Ltd	3339	56	405	3.20	18	423
2	Gujarat State Energy Generation	795	13	66	2.59	3	69
3	Gujarat State Energy Generation Expansion	1845	31	188	4.29	13	201
4	Gujarat Industries Power Co Ltd (SLPP)	1433	1433	124	1.54	221	345
5	Gujarat Mineral Development Corp.	1577	1577	144	0.93	146	290
6	Gujarat Industries Power Co Ltd (145 MW)	214	4	10	4.48	2	12
7	Gujarat Industries Power Co Ltd (SLPP - Exp)	1265	1265	270	1.70	215	486
8	GPPC Pipavav	472	60	386	5.49	33	419
9	Adani Power Ltd	14892	14892	1554	1.59	2364	3918
10	Mundra UMPP CGPL	12649	12649	1150	1.60	2029	3179
11	Essar Power Bid 2	7446	7446	795	1.74	1298	2093
12	ACB India Ltd	1489	1489	208	0.66	98	306
13	BECL	3084	3084	879	2.15	663	1541
	<b>Sub Total</b>	<b>50500</b>	<b>43997</b>	<b>6180</b>		<b>7102</b>	<b>13282</b>
	<b>Central Sector</b>						
1	NPC-Tarapur (1 & 2)	1072	1072	0	1.00	107	107
2	NPC-Tarapur (3 & 4)	1836	1836	0	2.89	530	530
3	NPC-Kakrapar	814	814	0	2.39	195	195



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
4	NTPC-Vindhyachal - I	1467	1467	94	1.61	236	330
5	NTPC-Vindhyachal - II	1566	1566	99	1.58	247	346
6	NTPC-Vindhyachal - III	1859	1852	194	1.52	281	475
7	NTPC-Korba	2506	2506	116	1.09	273	390
8	NTPC-Korba -II	668	668	87	1.08	72	159
9	NTPC-Kawas	636	79	94	2.94	23	117
10	NTPC-Jhanor	806	101	148	2.96	30	178
11	NTPC-Sipat-I	3759	3759	488	1.19	448	937
12	NTPC-Sipat - II	1901	1901	238	1.22	231	469
13	NTPC-Kahlaagaon	924	924	106	2.15	198	304
14	NTPC-Vindhyachal - IV	1573	1573	254	1.61	253	507
15	NTPC-Mauda	1573	98	402	3.03	30	432
16	NTPC-Vindhyachal - V	612	612	82	1.51	92	174
17	SSNL	335	335	0	2.04	68	68
18	NTPC-Mauda Stage II U#1	1032	1032	190	2.50	258	448
19	NTPC-Lara U#1	901	901	190	1.50	135	325
20	NTPC-Mauda Stage II U#2	1032	1032	190	2.50	258	448
21	NTPC-Gadarwara Stage-I U#1	515	515	73	1.50	77	151
22	NTPC-Gadarwara Stage-I U#2	129	129	18	1.50	19	38
23	NTPC-Lara U#2	327	327	69	1.50	49	118
24	NPC Kakrapar Ext U#1	642	642	50	2.38	153	203
	<b>Sub Total</b>	<b>28484</b>	<b>25742</b>	<b>3183</b>		<b>4266</b>	<b>7450</b>
	<b>Others</b>						
1	Captive Power	6	6	0	2.17	1	1
	<b>Renewable</b>						
1	Wind Farms	4280	4280	0	3.55	1521	1521
2	Solar	1368	1368	0	13.38	1831	1831
3	Small/Mini Hydal	45	45	0	3.39	15	15
4	Biomass	1	1	0	4.15	0	0
5	Solar(New)	1211	1211	0	4.50	545	545
6	Wind (New)	2468	2468	0	4.19	1034	1034
7	Others (New)	384	384	0	6.00	230	230
	<b>Sub Total</b>	<b>9762</b>	<b>9762</b>	<b>0</b>		<b>5178</b>	<b>5178</b>
	<b>TOTAL</b>	<b>122535</b>	<b>87619</b>	<b>12913</b>		<b>18302</b>	<b>31215</b>



**Table 5.54: Approved Power Purchase Cost for the FY 2018-19**

Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
	<b>GSECL</b>						
1	GSECL Gandhinagar - 5	1339	84	70	3.91	33	103
2	GSECL Wanakbori - 7	1339	84	62	3.09	26	87
3	GSECL Utran Expan	1910	32	243	4.35	14	257
4	GSECL Dhuvaran - 7	362	45	70	3.90	18	88
5	GSECL Dhuvaran - 8	382	48	85	4.07	19	105
6	GSECL Ukai	3890	243	292	2.86	70	362
7	GSECL Ukai Expan	3294	206	512	2.52	52	564
8	GSECL Gandhinagar 1-4	2649	166	191	3.31	55	246
9	GSECL Wanakbori 1-6	8035	502	520	3.27	164	684
10	GSECL Sikka Expansion	3189	3189	615	2.43	773	1388
11	GSECL Kutch Lignite	1243	1243	235	1.50	186	421
12	GSECL Kutch Lignite Exp unit 4	463	463	103	1.47	68	171
13	GSECL Ukai Hydro	478	478	32	0.00	0	32
14	GSECL Kadana Hydro	287	287	69	0.00	0	69
15	Dhuvaran CCPP III	1917	32	302	2.26	7	309
16	GSECL Wanakbori Ext U#8	5608	330	540	2.94	97	637
	<b>Sub Total</b>	<b>36386</b>	<b>7430</b>	<b>3942</b>		<b>1581</b>	<b>5524</b>
	<b>IPP's</b>						
1	CLP India Pvt Ltd	2505	42	304	3.20	13	317
2	Gujarat State Energy Generation	795	13	66	2.59	3	69
3	Gujarat State Energy Generation Expansion	1845	31	188	4.29	13	201
4	Gujarat Industries Power Co Ltd (SLPP)	1433	1433	124	1.54	221	345
5	Gujarat Mineral Development Corp.	1577	1577	144	0.93	146	290
6	Gujarat Industries Power Co Ltd (145 MW)	214	4	10	4.48	2	12
7	Gujarat Industries Power Co Ltd (SLPP - Exp)	1265	1265	270	1.70	215	486
8	GPPC Pipavav	472	60	386	5.49	33	419
9	Adani Power Ltd	14892	14892	1554	1.59	2364	3918
10	Mundra UMPP CGPL	12649	12649	1150	1.60	2029	3179
11	Essar Power Bid 2	7446	7446	795	1.74	1298	2093
12	ACB India Ltd	1489	1489	208	0.66	98	306



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
13	BECL	3084	3084	879	2.15	663	1541
	<b>Sub Total</b>	<b>49665</b>	<b>43984</b>	<b>6079</b>		<b>7098</b>	<b>13176</b>
	<b>Central Sector</b>						
1	NPC-Tarapur (1 & 2)	1072	1072	0	1.00	107	107
2	NPC-Tarapur (3 & 4)	1836	1836	0	2.89	530	530
3	NPC-Kakrapar	814	814	0	2.39	195	195
4	NTPC-Vindhyachal - I	1467	1467	94	1.61	236	330
5	NTPC-Vindhyachal - II	1566	1566	99	1.58	247	346
6	NTPC-Vindhyachal - III	1859	1852	194	1.52	281	475
7	NTPC-Korba	2506	2506	116	1.09	273	390
8	NTPC-Korba -II	668	668	87	1.08	72	159
9	NTPC-Kawas	636	79	94	2.94	23	117
10	NTPC-Jhanor	806	101	148	2.96	30	178
11	NTPC-Sipat-I	3759	3759	488	1.19	448	937
12	NTPC-Sipat - II	1901	1901	238	1.22	231	469
13	NTPC-Kahlagaon	924	924	106	2.15	198	304
14	NTPC-Vindhyachal - IV	1573	1573	254	1.61	253	507
15	NTPC-Mauda	1573	98	402	3.03	30	432
16	NTPC-Vindhyachal - V	612	612	82	1.51	92	174
17	SSNL	335	335	0	2.04	68	68
18	NTPC-Mauda Stage II U#1	1032	1032	190	2.50	258	448
19	NTPC-Lara U#1	982	982	207	1.50	147	354
20	NTPC-Mauda Stage II U#2	1032	584	190	2.50	146	336
21	NTPC-Gadarwara Stage-I U#1	772	772	110	1.50	116	226
22	NTPC-Gadarwara Stage-I U#2	772	772	110	1.50	116	226
23	NTPC-Lara U#2	982	982	69	1.50	147	216
24	NPC Kakrapar Ext U#1	1542	1542	120	2.38	367	487
25	NPC Kakrapar Ext U#2	1285	1285	100	2.38	306	406
	<b>Sub Total</b>	<b>32306</b>	<b>29116</b>	<b>3499</b>		<b>4920</b>	<b>8419</b>
	<b>Others</b>						
1	Captive Power	6	6	0	2.17	1	1
	<b>Renewable</b>						
1	Wind Farms	4280	4280	0	3.55	1521	1521
2	Solar	1368	1368	0	13.38	1831	1831
3	Small/Mini Hydal	45	45	0	3.39	15	15
4	Biomass	1	1	0	4.15	0	0
5	Solar(New)	2459	2459	0	4.50	1107	1107



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
6	Wind (New)	2880	2880	0	4.19	1207	1207
7	Others (New)	405	405	0	6.00	243	243
	<b>Sub Total</b>	<b>11443</b>	<b>11443</b>	<b>0</b>		<b>5925</b>	<b>5925</b>
	<b>TOTAL</b>	<b>129801</b>	<b>91973</b>	<b>13520</b>		<b>19523</b>	<b>33043</b>

**Table 5.55: Approved Power Purchase Cost for the FY 2019-20**

Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
	<b>GSECL</b>						
1	GSECL Gandhinagar - 5	1339	84	71	3.91	33	104
2	GSECL Wanakbori - 7	1339	84	63	3.09	26	89
3	GSECL Utran Expan	1910	32	240	4.35	14	254
4	GSECL Dhuvaran - 7	362	45	72	3.90	18	90
5	GSECL Dhuvaran - 8	382	48	89	4.07	19	108
6	GSECL Ukai	3890	243	330	2.82	69	398
7	GSECL Ukai Expan	3294	395	503	2.52	99	602
8	GSECL Gandhinagar 3-4	2649	166	193	3.31	55	247
9	GSECL Wanakbori 1-6	8035	502	556	3.27	164	721
10	GSECL Sikka	0	0	0	0.00	0	0
11	GSECL Sikka Expansion	3189	3189	602	2.43	773	1376
12	GSECL Kutch Lignite	1243	1243	243	1.50	186	429
13	GSECL Kutch Lignite Exp unit 4	463	463	101	1.47	68	169
14	GSECL Ukai Hydro	478	478	33	0.00	0	33
15	GSECL Kadana Hydro	287	287	70	0.00	0	70
16	Dhuvaran CCPP III	1917	32	298	2.26	7	305
17	GSECL Wanakbori Ext U#8	5608	330	899	2.94	97	996
18	GSECL Dhuvaran STPS	0	0	0	0.00	0	0
	<b>Sub Total</b>	<b>36386</b>	<b>7620</b>	<b>4364</b>		<b>1628</b>	<b>5992</b>
	<b>IPP's</b>						
1	Gujarat State Energy Generation	795	13	66	2.59	3	69
2	Gujarat State Energy Generation Expansion	1845	31	188	4.29	13	201





Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
3	Gujarat Industries Power Co Ltd (165 MW)	0	0	0	3.33	0	0
4	Gujarat Industries Power Co Ltd (SLPP)	1433	1433	124	1.54	221	345
5	Gujarat Mineral Development Corp.	1577	1577	144	0.93	146	290
6	Gujarat Industries Power Co Ltd (145 MW)	214	4	10	4.48	2	12
7	Gujarat Industries Power Co Ltd (SLPP - Exp)	1265	1265	270	1.70	215	486
8	GPPC Pipavav	472	60	386	5.49	33	419
9	Adani Power Ltd	14892	14892	1554	1.59	2364	3918
10	Mundra UMPP CGPL	12649	12649	1150	1.60	2029	3179
11	Essar Power Bid 2	7446	7446	795	1.74	1298	2093
12	ACB India Ltd	1489	1489	208	0.66	98	306
13	BECL	3084	3084	879	2.15	663	1541
	<b>Sub Total</b>	<b>47161</b>	<b>43942</b>	<b>5775</b>		<b>7084</b>	<b>12859</b>
	<b>Central Sector</b>						
1	NPC-Tarapur (1 & 2)	1072	1072	0	1.00	107	107
2	NPC-Tarapur (3 & 4)	1836	1836	0	2.89	530	530
3	NPC-Kakrapar	814	814	0	2.39	195	195
4	NTPC-Vindhyachal - I	1467	1467	94	1.61	236	330
5	NTPC-Vindhyachal - II	1566	1566	99	1.58	247	346
6	NTPC-Vindhyachal - III	1859	1852	194	1.52	281	475
7	NTPC-Korba	2506	2506	116	1.09	273	390
8	NTPC-Korba -II	668	668	87	1.08	72	159
9	NTPC-Kawas	636	79	94	2.94	23	117
10	NTPC-Jhanor	806	101	148	2.96	30	178
11	NTPC-Sipat-I	3759	3759	488	1.19	448	937
12	NTPC-Sipat - II	1901	1901	238	1.22	231	469
13	NTPC-Kahlagaon	924	924	106	2.15	198	304
14	NTPC-Vindhyachal - IV	1573	1573	254	1.61	253	507
15	NTPC-Mauda	1573	98	402	3.03	30	432
16	NTPC-Vindhyachal - V	612	612	82	1.51	92	174
17	SSNL	335	335	0	2.04	68	68
18	NTPC-Mauda Stage II U#1	1032	1032	190	2.50	258	448
19	NTPC-Lara U#1	982	982	207	1.50	147	354
20	NTPC-Mauda Stage II U#2	1032	1032	190	2.50	258	448
21	NTPC-Gadarwara Stage-I U#1	772	772	110	1.50	116	226





Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
22	NTPC-Gadarwara Stage-I U#2	772	772	110	1.50	116	226
23	NTPC-Lara U#2	982	982	69	1.50	147	216
24	NPC Kakrapar Ext U#1	1542	1542	120	2.38	367	487
25	NPC Kakrapar Ext U#2	1542	1542	120	2.38	367	487
26	NTPC-North Karanpura U#1	540	540	85	1.50	81	166
27	NTPC-North Karanpura U#2	270	270	43	1.50	41	83
28	NTPC-Khargone U#1	515	515	73	1.50	77	151
29	NTPC-Khargone U#2	193	193	28	1.50	29	56
	<b>Sub Total</b>	<b>34081</b>	<b>31339</b>	<b>3747</b>		<b>5321</b>	<b>9068</b>
	<b>Others</b>						
1	Captive Power	6	6	0	2.17	1	1
	<b>Renewable</b>						
1	Wind Farms	4280	4280	0	3.55	1521	1521
2	Solar	1368	1368	0	13.38	1831	1831
3	Small/Mini Hydal	45	45	0	3.39	15	15
4	Biomass	1	1	0	4.15	0	0
5	Solar(New)	3832	3832	0	4.50	1724	1724
6	Wind (New)	3331	3331	0	4.19	1396	1396
7	Others (New)	663	663	0	6.00	398	398
	<b>Sub Total</b>	<b>13526</b>	<b>13526</b>	<b>0</b>		<b>6886</b>	<b>6886</b>
	<b>TOTAL</b>	<b>131154</b>	<b>96426</b>	<b>13886</b>		<b>20919</b>	<b>34805</b>

**Table 5.56: Approved Power Purchase Cost for the FY 2020-21**

Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
	<b>GSECL</b>						
1	GSECL Gandhinagar - 5	1339	84	73	3.91	33	106
2	GSECL Wanakbori - 7	1339	84	64	3.09	26	90
3	GSECL Utran Expan	1910	32	237	4.35	14	251
4	GSECL Dhuvaran - 7	362	45	74	3.90	18	92
5	GSECL Dhuvaran - 8	382	48	95	4.07	19	114
6	GSECL Ukai	3890	243	358	2.77	67	425
7	GSECL Ukai Expan	3294	854	496	2.52	215	710
8	GSECL Gandhinagar 3-4	2649	166	196	3.31	55	251
9	GSECL Wanakbori 1-6	8035	502	573	3.24	163	736
10	GSECL Sikka	0	0	0	0.00	0	0



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
11	GSECL Sikka Expansion	3189	3189	592	2.43	773	1365
12	GSECL Kutch Lignite	1243	1243	250	1.50	186	436
13	GSECL Kutch Lignite Exp unit 4	463	463	99	1.47	68	167
14	GSECL Ukai Hydro	478	478	35	0.00	0	35
15	GSECL Kadana Hydro	287	287	72	0.00	0	72
16	Dhuvaran CCPP III	1917	32	295	2.26	7	302
17	GSECL Wanakbori Ext U#8	5608	330	885	2.94	97	982
18	GSECL Dhuvaran STPS	11217	660	1278	2.94	194	1472
	<b>Sub Total</b>	<b>47603</b>	<b>8738</b>	<b>5671</b>		<b>1935</b>	<b>7606</b>
	<b>IPP's</b>						
1	Gujarat State Energy Generation	795	13	66	2.59	3	69
2	Gujarat State Energy Generation Expansion	1845	31	188	4.29	13	201
3	Gujarat Industries Power Co Ltd (SLPP)	1433	1433	124	1.54	221	345
4	Gujarat Mineral Development Corp.	1577	1577	144	0.93	146	290
5	Gujarat Industries Power Co Ltd (145 MW)	214	4	10	4.48	2	12
6	Gujarat Industries Power Co Ltd (SLPP - Exp)	1265	1265	270	1.70	215	486
7	GPPC Pipavav	472	60	386	5.49	33	419
8	Adani Power Ltd	14892	14892	1554	1.59	2364	3918
9	Mundra UMPP CGPL	12649	12649	1150	1.60	2029	3179
10	Essar Power Bid 2	7446	7446	795	1.74	1298	2093
11	ACB India Ltd	1489	1489	208	0.66	98	306
12	BECL	3084	3084	879	2.15	663	1541
	<b>Sub Total</b>	<b>47161</b>	<b>43942</b>	<b>5775</b>		<b>7084</b>	<b>12859</b>
	<b>Central Sector</b>						
1	NPC-Tarapur (1 & 2)	1072	1072	0	1.00	107	107
2	NPC-Tarapur (3 & 4)	1836	1836	0	2.89	530	530
3	NPC-Kakrapar	814	814	0	2.39	195	195
4	NTPC-Vindhyachal - I	1467	1467	94	1.61	236	330
5	NTPC-Vindhyachal - II	1566	1566	99	1.58	247	346
6	NTPC-Vindhyachal - III	1859	1852	194	1.52	281	475
7	NTPC-Korba	2506	2506	116	1.09	273	390
8	NTPC-Korba -II	668	668	87	1.08	72	159
9	NTPC-Kawas	636	79	94	2.94	23	117



Sr. No.	Name of the Station	Available (MUs)	Dispatch (MUs)	Fixed Cost (Rs. Cr.)	Variable Cost (Rs./kwh)	Variable Cost (Rs.Cr.)	Total Cost (Rs. Cr.)
10	NTPC-Jhanor	806	101	148	2.96	30	178
11	NTPC-Sipat-I	3759	3759	488	1.19	448	937
12	NTPC-Sipat - II	1901	1901	238	1.22	231	469
13	NTPC-Kahlagaoon	924	924	106	2.15	198	304
14	NTPC-Vindhyachal - IV	1573	1573	254	1.61	253	507
15	NTPC-Mauda	1573	98	402	3.03	30	432
16	NTPC-Vindhyachal - V	612	612	82	1.51	92	174
17	SSNL	335	335	0	2.04	68	68
18	NTPC-Mauda Stage II U#1	1032	1032	190	2.50	258	448
19	NTPC-Lara U#1	982	982	207	1.50	147	354
20	NTPC-Mauda Stage II U#2	1032	1032	190	2.50	258	448
21	NTPC-Gadarwara Stage-I U#1	772	772	110	1.50	116	226
22	NTPC-Gadarwara Stage-I U#2	772	772	110	1.50	116	226
23	NTPC-Lara U#2	982	982	69	1.50	147	216
24	NPC Kakrapar Ext U#1	1542	1542	120	2.38	367	487
25	NPC Kakrapar Ext U#2	1542	1542	120	2.38	367	487
26	NTPC-North Karanpura U#1	540	540	85	1.50	81	166
27	NTPC-North Karanpura U#2	540	540	85	1.50	81	166
28	NTPC-North Karanpura U#3	540	540	85	1.50	81	166
29	NTPC-Khargone U#1	772	772	110	1.50	116	226
30	NTPC-Khargone U#2	772	772	110	1.50	116	226
	<b>Sub Total</b>	<b>35728</b>	<b>32986</b>	<b>3994</b>		<b>5568</b>	<b>9562</b>
	<b>Others</b>						
1	Captive Power	6	6	0	2.17	1	1
	<b>Renewable</b>						
1	Wind Farms	4280	4280	0	3.55	1521	1521
2	Solar	1368	1368	0	13.38	1831	1831
3	Small/Mini Hydal	45	45	0	3.39	15	15
4	Biomass	1	1	0	4.15	0	0
5	Solar(New)	5332	5332	0	4.50	2399	2399
6	Wind (New)	3809	3809	0	4.19	1596	1596
7	Others (New)	699	699	0	6.00	419	419
	<b>Sub Total</b>	<b>15539</b>	<b>15539</b>	<b>0</b>		<b>7783</b>	<b>7783</b>
	<b>TOTAL</b>	<b>146031</b>	<b>101205</b>	<b>15441</b>		<b>22370</b>	<b>37810</b>



#### 5.6.2.4 Transmission and other costs

##### Transmission costs

- The transmission charges of GETCO have been considered as per the approved ARR for GETCO for Control Period from FY 2016-17 to FY 2020-21.
- PGCIL charges have been worked out based on the actuals of FY 2015-16 with an escalation of 5% during each year.
- SLDC Fees & Charges also have been considered as per approved ARR for SLDC for Control Period from FY 2016-17 to FY 2020-21.

Based on the transmission costs of PGCIL, GETCO & SLDC, the Commission approves the total transmission costs to be included in the overall power purchase costs, as has been shown as below:

**Table 5.57: Approved Transmission Charges from FY 2016-17 to FY 2020-21**

(Rs Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	PGCIL Charges	1515	1591	1670	1754	1841
2	GETCO Charges	3058	3407	3749	4115	4502
3	SLDC Charges (Applicable to GUVNL)	6	16	8	8	8

#### 5.6.2.5 GUVNL Costs

UGVCL has submitted as stated in **Section 5.5.6** above that GUVNL is charging Rs.0.04 for every transaction of one unit of energy for providing the services of procuring the power from various sources and supplying to DISCOMs, trading of surplus power on behalf of Discoms, the overall coordination between the subsidiary companies and also undertaking the function of raising and managing the overall loan portfolio of GUVNL and its subsidiaries.



The Commission considers the charges at Rs.0.04/unit to handle power procurement and supply, etc., as reasonable and approves the GUVNL costs, as given below, based on the energy handled during the control period.

**Table 5.58: Approved GUVNL Cost from FY 2016-17 to FY 2020-21**

(Rs Crores)

Sr. No.	Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
1	Energy handled (MUs)	83548	87619	91973	96426	101205
2	GUVNL Cost at Rs. 0.04 per Unit (Rs Crore)	334	350	368	386	405

#### 5.6.2.6 Trading

As discussed earlier in Section 5.5.7, GUVNL has projected trading of surplus power based on its capacity to sell. GUVNL has estimated 1500 MUs for each year of the MYT period.

Trading cost is based on variable and fixed costs of the respective power plants. Ideally, the quantum of the energy traded by GUNVL should be derived by deducting the total energy requirement of all DISCOMs from total dispatchable energy available as approved. However, based on historical trends and present peak surplus scenario at the national level, the Commission determines more realistic trading volumes for GUVNL.

At GUVNL level, it has been considered that an additional 1500 MUs would be traded for each years, starting FY 2016-17 till the end of MYT period, i.e. FY 2020-21. Therefore 1500 MUs has been added to the overall annual energy requirement for all 4 GUVNL discoms, to determine the merit order dispatch for each year during the MYT period. However, as the Commission revised the loss reduction trajectory of GETCO and PGVCL, the quantum of energy requirement changed than what has been projected by the GUVNL discoms. Therefore, considering the volatility in overall energy requirements by GUVNL discoms, the Commission allows the overall projected energy requirement to be the same, as projected by the utilities. However, the changes in energy requirements due to revision of loss reduction trajectory, has been adjusted with the trading volume. Therefore, the overall trading volume changes from 1500 MUs per year to 1657 MUs in FY 2017-18, 1912 MUs in FY 2018-19, 1881 MUs in FY 2019-20 and 1947 MUs in FY 2020-21.



The Commission considers the estimated revenue from trading at a margin of Rs.0.5 per unit as projected by GUVNL, to arrive at the net power purchase cost to all the DISCOMs as shown in the table below.

**Table 5.59: Approved trading volume for GUVNL**

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
GUVNL Trading (MUs)	1500	1657	1912	1881	1947
Contribution from trading (Rs 0.5 per unit) (Rs Crore)	75	83	96	94	97

### 5.6.2.7 Fixed costs

The total power purchase cost, consisting of the cost of power procured from various sources, transmission costs of PGCIL and GETCO, SLDC charges and trading costs approved by the Commission is aggregated to arrive at the total power purchase cost for all DISCOMs. The fixed costs, due to the capacity contracted by GUVNL, are passed on to DISCOMs as given in the Table below:

**Table 5.60: Approved Fixed Cost for DISCOMs for FY 2016-17 to FY2020-21**

Year	Fixed Cost (Rs. Crore)	GETCO cost (Rs. Crore)	PGCIL charges (Rs.Crore)	SLDC charges (Rs.Crore )	Total Fixed cost (Rs. Crore)	DISCOM Fixed cost (Rs. Crore)
2016-17	11998	3058	1515	6	16576	16576
2017-18	12913	3407	1591	16	17927	17927
2018-19	13520	3749	1670	8	18947	18947
2019-20	13886	4115	1754	8	19763	19763
2020-21	15441	4502	1841	8	21792	21792

### 5.6.2.8 Variable costs

The total variable cost consists of the energy costs supplied to DISCOMs, as well as for trading. The total variable cost and variable cost per unit are given in the Table below:



**Table 5.61: Approved Variable Cost for DISCOMs for FY 2016-17 to FY2020-21**

Year	Variable cost (Rs. Crore)	GUVNL cost (Rs. Crore)	Total variable cost (Rs. Crore)	Total MUs despatched	Variable cost (Rs./ unit)	DISCOM		Trading	
						MUs	Variable cost (Rs. Crore)	MUs	Variable cost (Rs. Crore)
2016-17	17268	334	17602	83548	2.11	82048	17286	1500	316
2017-18	18302	350	18653	87619	2.13	85962	18300	1657	353
2018-19	19523	368	19891	91973	2.16	90061	19478	1912	414
2019-20	20919	386	21305	96426	2.21	94545	20889	1881	416
2020-21	22370	405	22774	101205	2.25	99258	22336	1947	438

### 5.6.2.9 Net Power Purchase Cost

The revenue contribution from sale of power to traders and others is subtracted from the total power purchase cost to arrive at net power purchase cost to DISCOMs. The net power purchase cost to DISCOMs, as approved by the Commission, is given in the Table below:

**Table 5.62: Approved Net Power Purchase Cost for Discoms**

Sr. No.	Year	Discom Fixed cost (Rs. Cr.)	Discom Variable cost (Rs. Cr.)	Total Power purchase cost for DISCOMs (Rs. Cr.)	Trading Cost (Rs. Cr.)	Contribution from Trading (Rs. Cr.)	Total Revenue from trading (Rs. Cr.)	Net Cost (Rs. Cr.)
1	2016-17	16576	17286	33862	316	75	391	33787
2	2017-18	17927	18300	36227	353	83	436	36144
3	2018-19	18947	19478	38425	414	96	509	38329
4	2019-20	19763	20889	40652	416	94	510	40558
5	2020-21	21792	22336	44128	438	97	536	44031



## 5.7 Fixed charges

### 5.7.1 Operation and Maintenance (O&M) expenses

UGVCL has claimed year wise O&M expenses totalling to Rs. 3110 Crore for the control period FY 2016-17 to FY 2020-21, as given in the Table below:

**Table 5.63: Proposed O&M Expenses for FY 2016-17 to FY 2020-21**

(Rs. Crore)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Employee Cost	530.78	561.14	593.24	627.17	663.05
2	Repair & Maintenance Expenses	94.29	99.68	105.39	111.41	117.79
3	Administration & General Expenses	80.65	85.26	90.14	95.30	100.75
4	Other Debits	3.63	3.63	3.63	3.63	3.63
5	Extraordinary Items	-	-	-	-	-
6	Net Prior Period Expenses/ (Income)	-	-	-	-	-
7	Other Expenses Capitalised	(154.20)	(163.02)	(172.34)	(182.20)	(192.62)
8	<b>Operation &amp; Maintenance Expenses</b>	<b>555.16</b>	<b>586.71</b>	<b>620.06</b>	<b>655.32</b>	<b>692.60</b>

### Petitioner's submission

UGVCL has submitted that the O&M expenses consist of: Employee cost, A&G expenses, R&M expenses, other debits, extraordinary items and net prior period expenses. The O&M expenses have been derived on the basis of average of the actual O&M expenses for the three (3) years ending March 31, 2015.

**Table 5.64: Average O&M Expenses arrived for base year FY 2013-14 (Rs. Crores)**

Sr. No.	Particulars	2012-13 (Approved)	2013-14 (Approved)	2014-15 (Approved)	Base year FY 2013-14 (Average)*
1	Employee Cost	315.91	337.07	364.28	339.09
2	Repair & Maintenance Expenses	64.50	66.02	82.01	70.84





Sr. No.	Particulars	2012-13 (Approved)	2013-14 (Approved)	2014-15 (Approved)	Base year FY 2013-14 (Average)*
3	Administration & General Expenses	52.74	64.27	64.77	60.59
4	Other Debits	6.74	2.60	1.13	-
5	Extraordinary Items	0.57	0.08	1.15	-
6	Net Prior Period Expenses/(Income)	(22.01)	(3.72)	15.00	-
7	Other Expenses Capitalised	(110.76)	(105.67)	(131.12)	(115.85)
8	Operation & Maintenance Expenses	307.69	360.65	397.22	354.67

*\*excluding other debits, extraordinary items and net prior period expenses*

The average of such O&M expenses are considered as O&M expenses for FY 2013-14 and are escalated at the escalation factor of 5.72% per annum to arrive at O&M expenses for subsequent years up to FY 2020-21. The average O&M expenses for FY 2013-14 are as given in the Table below:

**Table 5.65: Comparison of O&M Expenses for actuals of FY 2015-16 and projected as per GERC norms for FY 2016-17**

(Rs. Crores)

Sr. No.	Particulars	Base year FY 2013-14 (Average)*	2016-17 (Projected as per GERC norms)	2015-16 (Actuals)*
1	Employee Cost	339.09	400.67	433.82
2	Repair & Maintenance	70.84	83.71	59.72
3	Administration & General Charges	60.59	71.60	69.53
4	Other Debits	-	-	-
5	Extraordinary Items	-	-	-
6	Net Prior Period Expenses/(Income)	-	-	-
7	Other Expenses Capitalised	(115.85)	(136.89)	(112.18)
8	<b>Operation &amp; Maintenance Expenses</b>	<b>354.67</b>	<b>419.08</b>	<b>450.89</b>

*\*excluding Other debits, Extraordinary Items and Net prior period expenses*



UGVCL submitted that the O&M expenses, projected for FY 2016-17 by escalating the base year FY 2013-14 expenses as per GERC MYT Regulations, 2016 at the escalation rate of 5.72%, are lower than the actuals in FY 2015-16 which is an unlikely scenario.

Considering the above scenario, UGVCL submitted that it has considered the escalation rate at 10.00% instead of 5.72% to arrive at respective expense for FY 2016-17. However, for each subsequent year of MYT control period, UGVCL has considered escalation factor as 5.72%, as per GERC MYT Regulations 2016 to determine O&M expenses for FY2017-18 to FY 2020-21.

Further, UGVCL has also included the 7th Pay Commissions' impact for employee cost projections by extrapolating the provisions made in the accounts by the Distribution companies in last three months of FY 2015-16 and escalating it by 5.72% to arrive at FY 2016-17 levels. This is then added to the employee expenses projected from the above methodology for FY 2016-17 to arrive at the overall employee expenses projections upto FY 2020-21.

### **Commission's Analysis**

The Employee expenses, R&M expenses and A&G expenses are commonly considered as O&M expenses. UGVCL has also included the following expenses in the O&M expenses.

- Other debits
- Extraordinary item
- Net prior period expenses and
- Other expenses capitalised

The actual O&M expenses for FY 2012-13, 2013-14 and 2014-15, furnished by UGVCL, are verified with the audited annual accounts for the respective years and found to be correct.

However, UGVCL has submitted that annual escalation rate of 10% has been considered instead of 5.72%, as mentioned in GERC MYT Regulations 2016, to derive O&M expenses for FY 2016-17. Further, UGVCL has included provision for 7<sup>th</sup> Pay Commissions' in the employee cost. Since UGVCL has not made any payments against this provision, the Commission decides not to



approve the same. However, as and when the actual payment is made by the Company on the wage settlement with employee's unions, the expenditure on this account will be considered in the true up of the respective year as uncontrollable factors, subject to prudence check.

The Commission, accordingly, approves the Employee cost, R&M Expenses, Other Expenses Capitalized and A&G Expenses with 5.72% escalation p.a. for the MYT period, over the average of actuals incurred under these heads during FY 2012-13 to FY 2014-15, as per audited accounts. The approved O&M expenses are given in the Table below:

**Table 5.66: Approved O&M EXPENSES for FY 2016-17 to FY 2020-21**

(Rs Crore)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Employee Cost	400.67	423.58	447.81	473.43	500.51
2	Repair & Maintenance Expenses	83.71	88.50	93.56	98.91	104.57
3	Administration & General Expenses	71.60	75.69	80.02	84.60	89.44
4	Other Debits	-	-	-	-	-
5	Extraordinary Items	-	-	-	-	-
6	Net Prior Period Expenses/ (Income)	-	-	-	-	-
7	Other Expenses Capitalised	(136.89)	(144.72)	(153.00)	(161.75)	(171.00)
8	<b>Operation &amp; Maintenance Expenses</b>	<b>419.08</b>	<b>443.05</b>	<b>468.40</b>	<b>495.19</b>	<b>523.51</b>

## 5.7.2 Capital expenditure

UGVCL has projected year wise capital expenditure totalling to Rs. **3301.27** Crore for the control period FY 2016-17 to FY 2020-21, as given the Table below:

**Table 5.67: Projected CAPEX plan of UGVCL for FY 2016-17 to FY 2020-21**

	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
<b>A</b>	<b>Distribution Schemes</b>					
	Normal Development Scheme	175.00	175.00	177.00	177.00	180.00
	System Improvement Scheme	30.00	35.00	40.00	40.00	40.00



	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
	HVDS in selected Sub-division	5.50	5.50	5.00	4.50	4.50
	Underground Cables	25.00	100.00	100.00	100.00	100.00
	Plan Load management Transformer	4.00	4.00	4.00	4.00	4.00
	Others(VDS)	0.65	0.65	0.65	0.65	0.65
	<b>Total</b>	<b>240.15</b>	<b>320.15</b>	<b>326.65</b>	<b>326.15</b>	<b>329.15</b>
<b>B</b>	<b>Rural Electrification Schemes- Plan</b>					
	TASP (Wells) & Petapara	40.00	35.00	25.00	20.00	20.00
	Scheduled Caste Sub Plan(Wells)	5.00	5.00	4.00	4.00	3.00
	Scheduled Caste Sub Plan(lightning)	3.00	3.00	2.75	2.50	2.50
	Electrification of Hutments	5.00	5.00	4.50	4.00	4.00
	Kutir Jyoti Scheme	0.50	0.50	0.45	0.45	0.40
	Dark Zone	225.00	150.00	100.00	100.00	100.00
	Sagarkhedu	5.00	4.50	4.50	4.50	4.00
	Solar home light	30.00	25.00	20.00	15.00	15.00
	<b>Total</b>	<b>313.50</b>	<b>228.00</b>	<b>161.20</b>	<b>150.45</b>	<b>148.90</b>
<b>C</b>	<b>Central Government Scheme- Plan</b>					
	DDUJGY	36.00	60.00	24.00	-	-
	R-APDRP Part A	5.00	2.05	2.05	2.05	2.05
	IPDS	30.00	51.00	20.00	-	-
	SCADA Part A	18.46	0.21	0.21	0.21	0.21
	SCADA Part B	10.00	-	-	-	-
	Smart Grid	15.00	14.00	2.00	2.00	2.00
	<b>Total</b>	<b>114.46</b>	<b>127.26</b>	<b>48.26</b>	<b>4.26</b>	<b>4.26</b>
<b>D</b>	<b>Other Schemes (Non Plan)</b>					
	RE (Tatkal)	5.00	6.00	4.00	2.00	1.00
	Independent Consultant/Survey Agency	0.50	-	-	-	-
	AG Normal (SPA)	80.00	60.00	40.00	30.00	30.00
	Energy Conservation	0.10	0.10	0.10	0.10	0.10
	<b>Total</b>	<b>85.60</b>	<b>66.10</b>	<b>44.10</b>	<b>32.10</b>	<b>31.10</b>



	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
<b>E</b>	<b>Other New Schemes</b>					
	Automation and Computerization	4.35	4.35	4.35	4.35	4.35
	Civil Work / New Building	17.00	16.00	14.00	12.00	12.00
	GIS in Cities	0.20	0.20	0.20	0.20	0.20
	Other Schemes(Earthing)	0.90	0.87	0.85	0.80	0.80
	Other Repairing Work/Civil Work	2.00	2.00	2.50	2.00	2.00
	New Furniture and Fixtures	1.00	2.00	1.50	1.00	1.00
	Vehicles	0.50	0.50	0.50	0.50	0.50
	DSM	4.00	2.00	2.00	2.00	2.00
	DISS	20.00	10.00	5.00	5.00	-
	Solar Pump	10.00	5.00	5.00	5.00	5.00
	<b>Total</b>	<b>59.95</b>	<b>42.92</b>	<b>35.90</b>	<b>32.85</b>	<b>27.85</b>
<b>F</b>	<b>Total Capital Expenditure</b>	<b>813.66</b>	<b>784.43</b>	<b>616.11</b>	<b>545.81</b>	<b>541.26</b>

### Petitioner's submission

UGVCL has submitted its plan capital expenditure under broad heads- normal development schemes, RE and non-plan schemes, R-APDRP schemes, SCADA/ DMS schemes, High Voltage Distribution System (HVDS), System Improvement Scheme (S.I. Scheme), Deen Dayal Upadhyay Gramin Jyoti Yojana (DDUGJY), Integrated Power Development Scheme (IPDS) and various energy conservation schemes.

### Normal Development Scheme:

The company has to lay distribution lines up to installation of HT/LT consumers which calls for considerable investment for laying HT/LT lines, service connection lines and meters etc. For expansion of distribution system and considering the present year trend of capital expenditure under this head of work and the target achieved under ND scheme for FY 2015-16 of Rs. 169.08 Crores of estimated cost, the proposed investment under this scheme during the years of MYT control period from FY 2016-17 to FY 2020-21 is projected as per the Table above.



**SI Scheme:**

Every year UGVCL adds new consumers to the distribution system and also existing consumer's demands for additional load in their demand. Hence the system expansion is based on the consumer's requirement rather than technical requirement. This leads to increase in the loading of existing system networks and requires to be improved by bifurcating existing feeders, renovation of lines and up gradation of system, providing infrastructure to new commercial and residential connections etc. The target under SI scheme achieved for FY 2015-16 was of Rs. 25.62 Crores of estimated cost. The proposed investment under this scheme during the years of MYT control period from FY 2016-17 to FY 2020-21 is projected as per the Table above.

**Underground cables:**

The main objective and focus of this conversion of overhead network to underground distribution network scheme is to improve existing system to more reliable distribution system. In this scheme, conversion of overhead feeder is taken for conversion into underground system. The ring main unit is designed for maximum reliability and flexibility to address continuity of power supply. It allows transfer of load to alternative source without much delay in case of fault in any leg of ring feeder. Significant reduction is achieved in redundant transformer capacity. The scheme will allow significant under-grounding of 11 kV/LT distribution network in major urban area and will render a safe, reliable and flexible regional network in the area. The target under Underground scheme achieved for FY 2015-16 was of Rs. 0.65 Crores of estimated cost. The proposed investment under this scheme during the years of MYT control period from FY 2016-17 to FY 2020-21 is projected as per the Table above.

**DISS:**

This Scheme is provided to shifting of HT/LT line and transformers centre which are obstacles to public place under the nagarpalika and mahanagarpalika area. The target under DISS scheme achieved for FY 2015-16 was of Rs. 18.60 Crores of estimated cost. The proposed investment under this scheme during the years of MYT control period from FY 2016-17 to FY 2020-21 is projected as per the Table above.



**HVDS:**

The target under HVDS achieved for FY 2015-16 was of Rs. 7 Crores of estimated cost. The proposed investment under this scheme during the years of MYT control period from FY 2016-17 to FY 2020-21 is projected as per the Table above.

**Rural Electrification Scheme-Plans**

**TASP wells & Petapara:**

The target under TASP for FY 2016-17 was of release of 3000 no.s of Ag wells having estimated cost in the tune of Rs. 40 Crores. However, during the FY 2017-18 to FY 2020-21 the target is estimated to electrify pending 3728 nos. of Ag. Applications at the end of Oct-16 and proposed applications to be received year on year.

**Scheduled Caste Sub Plan: (Wells):**

The actual booking was achieved at Rs.10.96 Crores, in the year 2015-16. Now the beneficiaries of Scheduled caste are not available in backlog Ag pending applications. Hence the projection during the FY 2016-17 to FY 2020-21 are made considering the applications to be received in year on year.

**Scheduled Caste Sub Plan: (SCSP):**

The actual booking was at Rs. 3 Crores, in the year 2015-16. Now the beneficiaries of Scheduled caste localities are not available. The areas of SC beneficiaries of main village, city area, and surrounding area to provide better quality power supply in such area, can be allowed infrastructure work under this scheme. Hence the projection during the FY 2016-17 to FY 2020-21 are made considering the same.

**Hutments/Zupadpatti electrification Scheme:**

The actual booking of Rs. 6.15 Crores was achieved in the year 2015-16. Now there is increase in the nos. of beneficiaries due to changes of the criteria of income of beneficiaries from Rs. 27,000 to Rs.47000 for rural sector and Rs.36,000 to Rs.68,000 for urban area. Hence the projection during the FY 2016-17 to FY 2020-21 are made considering the same.

**Kutir Jyoti Scheme:**



The beneficiaries list of Scheduled Tribal is provided by Tribal Project Administrative. Now there is increase in the criteria of income of beneficiaries from Rs.27,000 to Rs.47000 for rural sector. Hence the projection during the FY 2016-17 to FY 2020-21 are made considering the same.

**Ag wells under Darkzone:**

After the lifting of ban on Darkzone area by the Government vide GR 27.03.2012. & E&P dept. Vide-letter no. ELC/2012/773/K-1 dated 12.04.2012 and the application of AG well under Darkzone area received from 17.09.12 onwards, there are total 32997 No's of Ag applications are pending from 2012 as on October, 2016. Looking to the pendency under Darkzone scheme and year to year applications expected to be received, the projection during the FY 2016-17 to FY 2020-21 are made considering the same.

**Sagarkhedu Sarvangi Vikas Yojana:**

The booking of expenditure would be in the tune of Rs. 4 Crores in the year 2015-16. Hence the projection during the FY 2016-17 to FY 2020-21 are made considering the same.

**Solar Home Light:**

The target under SHLS achieved for FY 2015-16 was of Rs. 1.05 Crores of estimated cost. During FY 2016-17 target of Rs.30 Crores will be achieved up to the end of the financial year. However, during the FY 2017-18 to FY 2020-21 the target would be assumed at Rs. 25, 20, 15 & 15 Crores in the respective year from FY 2017-18 to FY 2020-21.

**Central Government Scheme-Plan**

**DDUGJY:**

The total cost approved under DDUGJY scheme is Rs. 122.16 Crores in the month of May-16. The scheme is to be completed within 30 months from the date of approval. Thus the scheme is to be completed up to Nov-18. Hence the project has been planned for FY 2016-17 to FY 2018-19 of an expenditure of Rs 38, 60, and 24 Crores in the respective year.

**IPDS:**

The total cost approved under IPDS scheme is 102 Crores in the month of March-16. The scheme is to be completed within 30 months from the date of approval. Thus the scheme is to be





completed up to Sept-18. Hence the project has been planned for FY 2016-17 to 2018-19 of an expenditure of Rs 30, 51, and 21 Crores in the respective year.

#### **Other Schemes (Non Plan)**

##### **Agricultural wells under Normal (SPA):**

The target under AG normal was targeted for FY 2016-17 of 5500 No. of Ag wells having estimated cost in the tune of Rs. 80 Crores. However, between FY 2017-18 to FY 2020-21 the target would be decreased to Rs. 30 Crores. It has been estimated that the remaining 3728 nos. applications would be connected by the end of October, 2016.

#### **Other New Scheme**

##### **SCADA:**

In SCADA Project, PO has been given to M/s Chemtrols Industries Limited and till date Rs. 4.03 Crores has been paid to M/s Chemtrols. The project is under execution at present.

##### **Smart Grid:**

Presently, tender has been floated for implementation of Smart Grid Pilot Project in Naroda area for 22000 Consumers and will be awarded in the current financial year. The projected expenses are estimated at Rs. 15 Crores in FY 2016-17 and Rs. 14 Crores in FY 2017-18, considering 18 months of project time line. Whereas Rs. 2 Crores will be paid in FY 2018-19, FY 2019-20, FY 2020-21 considering 3 years FMS period.

##### **DSM:**

During FY 2016-17 targets of Rs 4.00 Crores will be utilized by giving subsidy to the consumer for purchasing the LED bulbs under UJALA Scheme. In the next FY 2017-18 to FY 2020-21 targets will be around Rs. 2 Crore each year, which will be utilized by giving subsidy to the end consumers in the upcoming projects like sale of “5 star rated energy efficient fans /LED tube lights”, Replacement & installation of efficient agriculture pump sets by inefficient pumps etc.

##### **Fencing:**

The target under Fencing was achieved for FY 2015-16 of 3.75 Crores of estimated cost. During FY 2016-17 target of Rs.3.75 Crores will be achieved up to the end of the financial year and the same is projected for FY 2017-18 to FY 2020-21.



### 5.7.2.1 Funding of Capex

UGVCL has further submitted that the funding of the projected capital expenditure is envisaged through various sources categorised under four headings, viz., consumer contribution, grants, equity and debt. Consumer contribution is the major source of funding for Normal Distribution schemes. Further, Grants are being received from Government for various governmental schemes like DDUGJY, IPDS, Hutment etc. While the remaining expenditure is proposed to be funded through debt and equity in the ratio of 70:30. The details of funding the CAPEX are as detailed in the Table below:

**Table 5.68: Funding Plan of Capital Expenditure**

(Rs Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Capitalisation	813.66	784.43	616.11	545.81	541.26
2	Less: Consumer Contribution	109.75	89.95	75.55	72.65	73.20
3	Less: Grants	322.10	277.10	173.10	129.95	122.90
4	Balance CAPEX	381.81	417.38	367.46	343.21	345.16
5	Debt @ 70%	267.27	292.17	257.22	240.25	241.61
6	Equity @ 30%	114.54	125.21	110.24	102.96	103.55

### Commission's Analysis

The Commission examined the CAPEX projected by UGVCL for the control period. UGVCL has submitted that the amount shown under capital expenditure plan, would be capitalized at entirety. The Commission examines the past trends of cpaex and capitalization of UGVCL as shown in the table below.



**Table 5.69: Historical CAPEX and capitalization of UGVCL**

(Rs Crore)

Discom	Particulars	2011-12	2012-13	2013-14	2014-15	2015-16	Average	%
DGVCL	Capex	287.76	533.49	625.43	606.06	554.97	521.54	
	Capitalization	267.23	478.99	609.73	565.57	551.46	494.60	95%
MGVCL	Capex	289.56	340.00	430.00	515.17	505.09	415.96	
	Capitalization	274.23	314.42	394.14	548.34	504.73	407.17	98%
PGVCL	Capex	1137.93	1382.00	1196.22	1570.08	1552.63	1367.77	
	Capitalization	1091.52	1319.78	1229.41	1625.78	1504.52	1354.20	99%
UGVCL	Capex	290.09	545.00	541.55	633.70	588.21	519.71	
	Capitalization	278.74	535.48	528.41	527.49	627.52	499.53	96%
GUVNL	Capex	2005.34	2800.49	2793.20	3325.01	3200.90	2824.99	
	Capitalization	1911.72	2648.67	2761.69	3267.18	3188.23	2755.50	98%

As can be observed from the table above, amount of approved capex capitalized varies year-on-year, as most of the capital investment schemes by the Discoms are of continuous and ongoing in nature. However, on an average, UGVCL/GUVNL Discoms have largely managed to achieve around 98% capitalization on the approved capex amount. Therefore, the Commission approves the capital expenditure and capitalization plan, as submitted by UGVCL.

**Table 5.70: Approved capital expenditure and capitalization for UGVCL**

(Rs. Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Capex	813.66	784.43	616.11	545.81	541.26
2	Capitalisation	813.66	784.43	616.11	545.81	541.26
3	Less: Consumer Contribution	109.75	89.95	75.55	72.65	73.20
4	Less: Grants	322.10	277.10	173.10	129.95	122.90
5	Balance CAPEX	381.81	417.38	367.46	343.21	345.16
6	Debt @ 70%	267.27	292.17	257.22	240.25	241.61
7	Equity @ 30%	114.54	125.21	110.24	102.96	103.55



### 5.7.3 Depreciation

UGVCL has projected year wise depreciation totaling to Rs. 1817 Crore for the control period FY 2016-17 to FY 2020-21, as detailed in the Table below:

**Table 5.71: Depreciation projected for FY 2016-17 to FY 2020-21**

(Rs Crore)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Gross Block at the Beginning of the year	5,205.67	6,019.33	6,803.76	7,419.87	7,965.68
2	Additions during the Year (Net)	813.66	784.43	616.11	545.81	541.26
3	Depreciation for the Year	289.67	331.74	368.61	399.19	427.81
4	Average Rate of Depreciation	5.16%	5.17%	5.18%	5.19%	5.19%

### Petitioner's submission

UGVCL has submitted that it has considered the closing Gross block of fixed assets of FY 2015-16 as the opening Gross block of fixed assets of FY 2016-17. The addition during the MYT control period FY 2016-17 to 2020-21 has been projected considering projected capitalisation for the same for each year. Depreciation has been calculated taking into consideration the opening balance of assets at the beginning of the year and the projected capitalisation. The GERC MYT Regulations, 2016 specify the rates to be used to compute depreciation to be charged during the year.

### Commission's Analysis

The Commission noted that the petitioner has computed depreciation for the control period FY 2016-17 to 2020-21, adopting the average rate of depreciation as per GERC MYT Regulations, 2016. The Commission has computed the depreciation based on the opening balance of GFA and addition of assets approved in the Table above, as given the Table below:



**Table 5.72: Approved depreciation for FY 2016-17 to FY 2020-21**

(Rs Crore)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Gross Block at the Beginning of the year	5,205.67	6,019.33	6,803.76	7,419.87	7,965.68
2	Additions during the Year (Net)	813.66	784.43	616.11	545.81	541.26
3	Gross Block at the end of the year	6,019.33	6,803.76	7,419.87	7,965.68	8,506.94
4	<b>Depreciation for the Year</b>	<b>289.67</b>	<b>331.74</b>	<b>368.61</b>	<b>399.19</b>	<b>427.81</b>
5	Average Rate of Depreciation	5.16%	5.17%	5.18%	5.19%	5.19%

The Commission, accordingly, approves the depreciation for the control period, as detailed in the above Table.

In case of Depreciation, the MYT Regulations, 2016 provides that-

*“Depreciation shall be computed annually based on the straight line method at the rates specified in the Annexure I to these Regulations:*

*Provided that the remaining depreciable value as on 31<sup>st</sup> March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets:*

*Provided further that for a Generating Company or a Transmission Licensee or SLDC or a Distribution Licensee formed as a result of a Transfer Scheme, the depreciation on assets transferred under the Transfer Scheme shall be charged as per rates specified in these Regulations for a period of 12 years from the date of Transfer Scheme, and thereafter depreciation will be spread over the balance useful life of the assets”*

The petitioner came into existence through Transfer Scheme of the State Government effective from 1<sup>st</sup> April 2005 and the period of 12 years is getting completed on 31.03.2017. Accordingly, the petitioner is required to consider depreciation for the FY 2017-18 in accordance with the MYT Regulations, 2016 as stated above. At present the Commission has considered the depreciation charges as projected by the petitioner for the MYT Control Period, but the petitioner is required to



book depreciation charges in accordance with the MYT Regulations. The Commission will consider and allow depreciation charges for FY 2017-18 in accordance with the MYT Regulations, 2016.

#### 5.7.4 Interest and Finance charges

UGVCL has projected the interest and finance charges as detailed in the Table below:

**Table 5.73: Projected Interest & Financial Charges for FY 2016-17 to FY 2020-21**

(Rs. Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Opening Loans	644.29	621.89	582.31	470.93	311.99
2	Loan Additions during the Year	267.27	292.17	257.22	240.25	241.61
3	Less: Repayment during the Year	289.67	331.74	368.61	399.19	427.81
4	Closing Loans	621.89	582.31	470.93	311.99	125.79
5	Average Loans	633.09	602.10	526.62	391.46	218.89
6	Interest Rate on Loan	9.49%	9.49%	9.49%	9.49%	9.49%
7	Interest on Loan	60.08	57.14	49.98	37.15	20.77
8	Interest on Security Deposit	84.85	93.33	102.67	112.93	124.22
9	Guarantee Charges	0.83	0.83	0.83	0.83	0.83
10	<b>Total Interest &amp; Finance Charges</b>	<b>145.76</b>	<b>151.30</b>	<b>153.47</b>	<b>150.91</b>	<b>145.83</b>

#### Petitioner's submission

UGVCL has submitted that the closing balance of loan portfolio for FY 2015-16 amounting to Rs. 644.29 Crores is taken as opening balance of FY 2016-17. The normative loan addition in the control period FY 2016-17 to FY 2020-21 is computed as per the Capex funding plan discussed above. The repayment for the year during the control period from FY 2016-17 to FY 2020-21 has been taken equal to depreciation calculated for the year. The rate of interest for both outstanding and new loans has been taken as the actual weighted average rate of interest for FY 2015-16 i.e. 9.49%.



UGVCL proposes security deposit growth based on Year-on-Year growth rate of 10% over actuals of FY 2015-16 for the control period. Interest rate on Security deposit from consumers is taken at the RBI bank rate of 7.75% prevailing as on 1<sup>st</sup> April, 2016 as per the GERC MYT Regulations 2016. Guarantee charges has been taken at the same level of FY 2015-16.

### **Commission's Analysis**

The opening balance of loans for FY 2016-17 is as per the closing balance of loans for FY 2015-16. The Commission considers opening loans of FY 2015-16 as Rs. 625.64 Crore, as against Rs. 644.29 Crore claimed by UGVCL. The difference in opening loans of FY 2015-16 is due to calculation of depreciation by UGVCL vis-à-vis Commission, as explained in Section 0 in this order.

The repayment of loans, equal to depreciation, considered by UGVCL is in accordance with GERC (MYT) Regulations, 2016 for the control period. UGVCL has assumed the loan addition based on the capitalisation of CAPEX during the year of investment. The Commission has approved the capitalisation in the paragraph above and the loan additions are computed accordingly in the Table below.

UGVCL has submitted details of the actual opening balance as on 01.04.2015 for each loan portfolio and the rate of interest applicable for each loan portfolio for FY 2015-16 vide e-mail dated 22.02.2017. Based on these information, the Commission has worked out the weighted average rate of interest as 7.27%, which is in accordance with GERC (MYT) Regulations, 2016. Therefore, the Commission considers 7.27% as the average interest rate to determine interest and finance cost for UGVCL for the control period FY 2016-17 to FY 2020-21.

UGVCL has projected 10% year-on-year increase in the security deposit during the control period and has considered 7.75% interest rate, as per GERC MYT Regulations, to work out interest on security deposit. The Commission approves the same. Considering all the above, the Commission has computed the interest and finance charges for the control period, which are as given in the Table below:



**Table 5.74: Approved Interest & Finance Charges for FY 2016-17 to FY 2020-21**

(Rs Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Opening Loans	626.03	603.62	564.05	452.67	293.72
2	Loan Additions during the Year	<b>267.27</b>	<b>292.17</b>	<b>257.22</b>	<b>240.25</b>	<b>241.61</b>
3	Less: Repayment during the Year	289.67	331.74	368.61	399.19	427.81
4	Closing Loans	603.62	564.05	452.67	293.72	107.53
5	Average Loans (average of 1 & 4)	614.83	583.84	508.36	373.19	200.63
6	Interest Rate on Loan	<b>7.27%</b>	<b>7.27%</b>	<b>7.27%</b>	<b>7.27%</b>	<b>7.27%</b>
7	Interest on Loan	44.70	42.44	36.96	27.13	14.59
8	Interest in Security Deposit	84.85	93.33	102.67	112.93	124.22
9	Guarantee Charges	0.83	0.83	0.83	0.83	0.83
10	<b>Total Interest &amp; Finance Charges</b>	<b>130.38</b>	<b>136.61</b>	<b>140.45</b>	<b>140.89</b>	<b>139.64</b>

The Commission, accordingly, approves the interest and finance charges, as detailed in the above Table.

### 5.7.5 Interest on working capital

UGVCL has projected the interest on working capital for the control period FY 2016-17 to FY 2020-21, as detailed in the Table below:

**Table 5.75: Projected interest on working capital for FY 2016-17 to FY 2020-21**

(Rs Crore)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	O & M expenses	46.26	48.89	51.67	54.61	57.72
2	Maintenance Spares	52.06	60.19	68.04	74.20	79.66
3	Receivables	783.63	816.29	850.36	885.95	923.15
4	Less: Security Deposit	1,094.80	1,204.28	1,324.71	1,457.18	1,602.90
5	<b>Total Working Capital</b>	<b>(212.85)</b>	<b>(278.91)</b>	<b>(354.65)</b>	<b>(442.43)</b>	<b>(542.38)</b>
6	Interest on Working Capital	-	-	-	-	-





### Petitioner's submission

UGVCL has submitted that the interest on working capital has been calculated on normative parameters, in accordance with the GERC (MYT) Regulations, 2016. Since the Security deposit from the consumers with the utility is more than its total normative working capital requirement, UGVCL has not projected any interest on working capital for MYT control period FY 2016-17 to FY 2020-21.

### Commission's Analysis

The Commission has examined the computation of interest on working capital submitted by UGVCL. The O&M expenses for one month and maintenance spares at 1% GFA are considered by the company as per the GERC (MYT) Regulations, 2016. The Commission has analysed and approved the O&M expenses in Table 5.66 and GFA in Table 5.72. Based on the approved O&M expenses and GFA, the Commission has computed the working capital and interest on working capital, which are as detailed in the Table below.

**Table 5.76: Approved Interest on working capital for FY 2016-17 to FY 2020-21**

(Rs. Crore)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	O & M expenses	34.92	36.92	39.03	41.27	43.63
2	Maintenance Spares	52.06	60.19	68.04	74.20	79.66
3	Receivables	783.63	816.28	850.36	885.95	923.15
4	Less: Security Deposit	1,094.80	1,204.28	1,324.71	1,457.18	1,602.90
5	<b>Total Working Capital</b>	<b>(224.19)</b>	<b>(290.89)</b>	<b>(367.28)</b>	<b>(455.77)</b>	<b>(556.47)</b>
6	Interest Rate (SBI MCLR on 1 <sup>st</sup> April, 2016 plus 250 basis point)	11.70%	11.70%	11.70%	11.70%	11.70%
7	Interest on Working Capital	-	-	-	-	-



The Commission, accordingly, approves the interest on working capital, as nil as detailed in the above Table for the control period for FY 2016-17 to FY 2020-21.

### 5.7.6 Provision for bad and doubtful debts

UGVCL has estimated the bad debts for the control period FY 2016-17 to FY 2020-21, which are as given in the Table below:

**Table 5.77: Bad and Doubtful Debts for FY 2016-17 to FY 2020-21**

(Rs. Crores)

Sr. No.	Particular	2016-17	2017-18	2018-19	2019-20	2020-21
1	Provision for Bad Debts	6.15	6.15	6.15	6.15	6.15

### Petitioner's submission

UGVCL has submitted that the provision for bad & doubtful debts is considered same as actuals of FY 2015-16.

### Commission's Analysis

Regulation 94.9 of the GERC (MYT) Regulations, 2016 specifies that the Commission may allow bad debts written off as a pass through in the ARR.

*'The Commission may allow bad debts written off as a pass through in the Aggregate Revenue Requirement, based on the trend of write off of bad debts in the previous years, subject to prudence check:*

*Provided that the Commission shall true up the bad debts written off in the Aggregate Revenue Requirement, based on the actual write off of bad debts excluding DPC waived off, if any, during the year, subject to prudence check.'*

The latest audited accounts available in respect of UGVCL are for FY 2015-16. The Commission has approved the bad debts written off at Rs. 0.70 Crore in the truing up for FY 2015.16. Although, UGVCL submitted that Rs. 5.43 Crore has been provided for bad debts as per the prevailing



practice of the company, the Commission disallows the amount as it is only a provision. And not an actual expenditure. Instead the Commission allows amount that has been actually written off during FY 2015-16.

**Table 5.78: Approved Bad and Doubtful Debts for FY 2016-17 to FY 2020-21**

(Rs. Crores)

Sr. No.	Particular	2016-17	2017-18	2018-19	2019-20	2020-21
1	Provision for Bad Debts	0.70	0.70	0.70	0.70	0.70

The Commission, accordingly, approves provision for bad debts at Rs. 0.70 Crore for each year of the control period FY 2016-17 to FY 2020-21 as given in the Table above.

### 5.7.7 Return on equity

UGVCL has projected the return on equity for the control period FY 2016-17 TO FY 2020-21, as detailed in the Table below:

**Table 5.79: Projected Return on Equity for FY 2016-17 to FY 2020-21**

(Rs. Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Opening Equity	1,116.47	1,231.02	1,356.23	1,466.47	1,569.43
2	Equity Additions during the Year	114.54	125.21	110.24	102.96	103.55
3	Closing Equity	1,231.02	1,356.23	1,466.47	1,569.43	1,672.98
4	Average Equity	1,173.75	1,293.62	1,411.35	1,517.95	1,621.21
5	Rate of Return on the Equity	14%	14%	14%	14%	14%
6	Return on Equity	164.32	181.11	197.59	212.51	226.97



### Petitioner's submission

UGVCL has submitted that the return on equity has been computed @ 14% on average equity, based on the opening balance of equity and normative additions during the year, which has been arrived at by considering 30% of the capital expenditure net of consumer contribution and grants. The rate of 14% is considered as provided in the GERC (MYT) Regulations, 2016.

### Commission's Analysis

The Commission has computed the return on equity @ 14% on the average equity of the opening and closing balance and addition of equity during each year of the control period, as approved in the Table below:

**Table 5.80: Approved Return on Equity for FY 2016-17 to FY 2020-21**

(Rs Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Opening Equity	1,116.47	1,231.02	1,356.23	1,466.47	1,569.43
2	Equity Additions during the Year	114.54	125.21	110.24	102.96	103.55
3	Closing Equity	1,231.02	1,356.23	1,466.47	1,569.43	1,672.98
4	Average Equity	1,173.75	1,293.62	1,411.35	1,517.95	1,621.21
5	Rate of Return on the Equity	14%	14%	14%	14%	14%
6	<b>Return on Equity</b>	<b>164.32</b>	<b>181.11</b>	<b>197.59</b>	<b>212.51</b>	<b>226.97</b>

### 5.7.8 Provision for Tax

UGVCL has projected the income tax for the control period FY 2016-17 to FY 2020-21 as detailed in the Table below:

**Table 5.81: Taxes for FY 2016-17 to FY 2020-21**

(Rs. Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Provision for Tax/ Tax Expenses	17.14	17.14	17.14	17.14	17.14



### Petitioner's submission

UGVCL has submitted that the income tax for each year of the control period has been taken as per the actual income tax paid as per the latest audited accounts, i.e. FY 2015-16 and requested the Commission to approve the same.

### Commission's Analysis

Regulation 41.1 of GERC (MYT) Regulations, 2016 specifies that the Commission, in its MYT Order, shall provisionally approve income tax payable for each year of the control period, if any, based on the actual income tax paid as per the latest audited accounts available for the applicant, subject to prudence check. The latest audited accounts available for UGVCL are for FY 2015-16 and the income tax admitted in the truing up for FY 2015-16 is Rs. 17.14 Crore.

The Commission, accordingly, approves the provision for income tax for the control period for FY 2016-17 to FY 2020-21, as detailed in the Table below:

**Table 5.82: Approved Taxes for FY 2016-17 to FY 2020-21**

(Rs. Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Provision for Tax/ Tax Expenses	17.14	17.14	17.14	17.14	17.14

Any variation in income tax actually paid and approved shall be considered, based on the documentary evidence at the time of truing up for each year of the control period, in accordance with the Regulation 41.1 of the GERC (MYT) Regulations, 2016.

### 5.7.9 Non-Tariff income

UGVCL has projected the non-tariff income for the control period FY 2016-17 to FY 2020-21, as detailed in the Table below:



**Table 5.83: Non-Tariff Income projected for FY 2016-17 to FY 2020-21**

(Rs. Crores)

Sr. No.	Particular	2016-17	2017-18	2018-19	2019-20	2020-21
1	Non-Tariff Income	148.09	148.09	148.09	148.09	148.09

#### **Petitioner's submission**

UGVCL has submitted that the income under this category comprises of: interest on loans and advances to employees / contractors, Income from sale of scrap, Gain on sale of fixed assets (net), Grant for energy conservation, Capital grants (Deferred amount 10% W.Back) and Miscellaneous receipts considered at the level of actual in FY 2015-16 for the control period FY 2016-17 to FY 2020-21.

#### **Commission's Analysis**

The Commission has noted that the actual non-tariff income in FY 2015-16 was Rs. 146.76 Crore, net of delayed payment charges (Rs. 19.76 Crore) & interest on staff loans (Rs. 1.33 Crore).

The Commission, accordingly, approves the non-tariff income for the control period FY 2016-17 to FY 2020-21, as detailed in the Table below:

**Table 5.84: Non-Tariff Income approved for FY 2016-17 to FY 2020-21 (Rs. Crores)**

Sr. No.	Particular	2016-17	2017-18	2018-19	2019-20	2020-21
1	Non-Tariff Income	146.76	146.76	146.76	146.76	146.76

## **5.8 Annual Revenue Requirement (ARR) excluding power purchase cost**

The UGVCL has submitted that the ARR for the control period FY 2016-17 to FY 2020-21 has been calculated excluding the power purchase cost to determine the Bulk Supply Tariff (BST) for each DISCOM, since the BST methodology has been adopted by the utilities.

The ARR, as projected by the UGVCL, is as detailed in the Table below:



**Table 5.85: Projected Multi-Year ARR, excluding power purchase cost for FY 2016-17 to FY 2020-21**

(Rs. Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Operation & Maintenance Expenses	555.15	586.69	620.06	655.31	692.60
1.1	Employee Cost	530.78	561.14	593.24	627.17	663.05
1.2	Repairs & Maintenance Expenses	94.29	99.68	105.39	111.41	117.79
1.3	Administration & General Expenses	80.65	85.26	90.14	95.30	100.75
1.4	Other Debits	3.63	3.63	3.63	3.63	3.63
1.5	Extraordinary Items	-	-	-	-	-
1.6	Net Prior Period Expenses / (Income)	-	-	-	-	-
1.7	Other Expenses Capitalised	(154.20)	(163.02)	(172.34)	(182.20)	(192.62)
2	Depreciation	289.67	331.74	368.61	399.19	427.81
3	Interest & Finance Charges	145.76	151.30	153.47	150.91	145.83
4	Interest on Working Capital	-	-	-	-	-
5	Provision for Bad Debts	6.15	6.15	6.15	6.15	6.15
6	<b>Sub-Total (1 to 5)</b>	<b>996.73</b>	<b>1075.88</b>	<b>1148.29</b>	<b>1212.28</b>	<b>1272.37</b>
7	Return on Equity	164.32	181.11	197.59	212.51	226.97
8	Provision for Tax / Tax Paid	17.14	17.14	17.14	17.14	17.14
9	<b>Total Expenditure (6 to 8)</b>	<b>1178.19</b>	<b>1274.13</b>	<b>1363.02</b>	<b>1441.93</b>	<b>1516.48</b>
10	Less: Non-Tariff Income	148.09	148.09	148.09	148.09	148.09
11	<b>Aggregate Revenue Requirement (9 - 10)</b>	<b>1030.11</b>	<b>1126.04</b>	<b>1214.93</b>	<b>1293.84</b>	<b>1368.39</b>



The Commission has analysed the components of ARR in the foregoing paragraphs and approved ARR as summarised in the Table below:

**Table 5.86: Approved Multi-Year ARR, excluding power purchase cost for FY 2016-17 to FY 2020-21**

(Rs. Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Operation & Maintenance Expenses	419.08	443.05	468.40	495.19	523.51
1.1	Employee Cost	400.67	423.58	447.81	473.43	500.51
1.2	Repairs & Maintenance Expenses	83.71	88.50	93.56	98.91	104.57
1.3	Administration & General Expenses	71.60	75.69	80.02	84.60	89.44
1.4	Other Debits	-	-	-	-	-
1.5	Extraordinary Items	0.00	0.00	0.00	0.00	0.00
1.6	Net Prior Period Expenses / (Income)	-	-	-	-	-
1.7	Other Expenses Capitalised	(136.89)	(144.72)	(153.00)	(161.75)	(171.00)
2	Depreciation	289.67	331.74	368.61	399.19	427.81
3	Interest & Finance Charges	130.38	136.61	140.45	140.89	139.64
4	Interest on Working Capital	0.00	0.00	0.00	0.00	0.00
5	Provision for Bad Debts	0.70	0.70	0.70	0.70	0.70
6	<b>Sub-Total (1 to 5)</b>	<b>839.83</b>	<b>912.10</b>	<b>978.16</b>	<b>1035.97</b>	<b>1091.66</b>
7	Return on Equity	164.32	181.11	197.59	212.51	226.97
8	Provision for Tax / Tax Paid	17.14	17.14	17.14	17.14	17.14
9	<b>Total Expenditure (6 to 8)</b>	<b>1021.30</b>	<b>1110.35</b>	<b>1192.88</b>	<b>1265.63</b>	<b>1335.77</b>
10	Less: Non-Tariff Income	146.76	146.76	146.76	146.76	146.76
11	<b>Aggregate Revenue Requirement (9 - 10)</b>	<b>874.54</b>	<b>963.59</b>	<b>1046.12</b>	<b>1118.87</b>	<b>1189.01</b>





### 5.8.1 Revenue from existing tariff FY 2017-18

UGVCL has estimated the category-wise revenue based on existing tariff at Rs. 6,297.77 Crore for FY 2017-18, as detailed in the Table below:

**Table 5.87: Revenue from existing tariff projected for FY 2017-18**

(Rs Crore)

Sr. No.	Particulars	2017-18
<b>A</b>	<b>LT Consumers</b>	
1	RGP	852.43
2	GLP	20.80
3	Non-RGP & LTMD	948.83
4	Public Water Works	260.56
5	Agriculture-Unmetered	880.59
6	Agriculture-Metered	287.12
7	Street Light	23.91
	<b>LT Total (A)</b>	<b>3,274.24</b>
<b>B</b>	<b>HT Consumers</b>	
1	Industrial HT	3,023.53
2	Railway Traction	-
	<b>HT Total (B)</b>	<b>3,023.53</b>
	<b>Grand Total (A + B)</b>	<b>6,297.77</b>

### Petitioner's submission

UGVCL submitted that it has projected the sales for FY 2017-18 as per GERC MYT Regulations, 2016. Based on projected sales & existing retail tariff, revenue from sale of power works out to Rs. 6,297.77 Crore for FY 2017-18.

### Commission's Analysis

The Commission has analyzed the category-wise sales projected by UGVCL for the control period FY 2016-17 to FY 2020-21. The Commission observed that the category-wise sales projection for the control period, as considered by UGVCL is realistic in nature and as per GERC MYT Regulations, 2016. Taking into consideration the average tariff under each category, the



Commission has computed the revenue from sale of power at existing tariff for FY 2017-18 as detailed in the Table below:

**Table 5.88: Approved revenue from existing tariff for FY 2017-18**

(Rs Crore)

Sr. No.	Particulars	2017-18
<b>A</b>	<b>LT Consumers</b>	
1	RGP	852.43
2	GLP	20.80
3	Non-RGP & LTMD	948.83
4	Public Water Works	260.56
5	Agriculture-Unmetered	880.59
6	Agriculture-Metered	287.12
7	Street Light	23.91
	<b>LT Total (A)</b>	<b>3,274.24</b>
<b>B</b>	<b>HT Consumers</b>	
1	Industrial HT	3,023.53
2	Railway Traction	-
	<b>HT Total (B)</b>	<b>3,023.53</b>
	<b>Grand Total (A + B)</b>	<b>6,297.77</b>

### 5.8.2 Revenue from FPPPA charges

UGVCL has estimated revenue from FPPPA charges for FY 2017-18, as detailed in the Table below:

**Table 5.89: Revenue from FPPPA Charges for the FY 2017-18**

(Rs Crore)

Particulars	2017-18
Base FPPPA Charges@143 paisa/kWh	2709.24

### Petitioner's submission

UGVCL has submitted that while approving MYT for control period FY 2011-12 to 2015-16, the Commission decided to freeze the FPPPA charges at 61 paisa per kWh over and above the



variation on base power purchase cost of FY 2009-10. During Mid-term review, the Commission shifted the base power purchase cost from FY 2009-10 to FY 2012-13 resulting into revised FPPPA charges from 61 paisa per kWh to 120 paisa per kWh.

The Company proposes to shift the base power purchase cost from FY 2012-13 to FY 2015-16 resulting into the revision of FPPPA charges from existing 120 paisa per kWh to 143 paisa per kWh as per the weighted average actual FPPPA charges of FY 2015-16.

### Commission's Analysis

The Commission allows shifting of base power purchase cost from FY2012-13 to FY 2015-16, so that it reflects present day scenario. The Commission also allows FPPPA charges at 143 paisa per kWh for the MYT period.

**Table 5.90: Approved Revenue from FPPPA Charges for the FY 2017-18**

(Rs Crore)

Particulars	2017-18
Base FPPPA Charges@143 paisa/kWh	2709.24

### 5.8.3 Other consumer related income

UGVCL has estimated the other consumer related income at Rs. 252.35 Crore for FY 2017-18, as detailed in the Table below:

**Table 5.91: Other Consumer related Income for FY 2017-18**

(Rs Crores)

Particulars	2017-18
Other Income Consumer Related	252.35

### Petitioner's submission

UGVCL has submitted that the revenue from other consumer related income comprises of revenue on account of charges, other than the basic charges applicable to the consumers like meter rent, wheeling charges, cross subsidy surcharges, recoveries from theft of power and miscellaneous charges.



### Commission's Analysis

The Commission has observed that UGVCL has projected the other consumer related income for FY 2017-18 at the same level as the actuals for FY 2015-16.

The Commission, accordingly, approves the other consumer related income at Rs. 252.35 Crore for FY 2017-18.

### 5.8.4 Agriculture subsidy

#### Petitioner's submission

UGVCL submitted that the agricultural subsidy that was received by the erstwhile GEB from the State Government will continue to be received by the four DISCOMs i.e. Rs 536.06 Crores. The share of agricultural subsidy for FY 2017-18 is considered at the same level as actual subsidy received by UGVCL for FY 2015-16.

**Table 5.92: Projected Agriculture Subsidy for FY 2017-18**

(Rs Crores)

Particulars	2017-18
Share of Agriculture Subsidy	536.06

### Commission's Analysis

The Commission has computed the agricultural consumption in respect of UGVCL, against the total agricultural consumption approved for all the four DISCOMs. Based on the share of UGVCL's agricultural consumption, the agricultural subsidy for UGVCL is computed as detailed in the Table below:

**Table 5.93: Approved Agriculture Subsidy for FY 2017-18**

(Rs Crores)

Particulars	2017-18
Share of Agriculture Subsidy	536.06

**The Commission, accordingly, approves agricultural subsidy as Rs. 536.06 for FY 2017-18.**



## 5.8.5 Total expected revenue for FY 2017-18

### Petitioner's submission

The total expected revenue for UGVCL comprises of revenue from sale of power at existing tariff, FPPPA charges, other consumer related income and Agriculture Subsidy. Total revenue for FY 2017-18 is shown in the Table below:

**Table 5.94: Projected Revenue for FY 2017-18**

(Rs Crore)

Sr. No.	Particulars	2017-18
1	Revenue with Existing Tariff	6,297.77
2	Base FPPPA Charges @ 143 paisa/kWh	2709.24
3	Other Income (Consumer related)	252.35
4	<b>Agriculture Subsidy</b>	<b>536.06</b>
5	Total Revenue including subsidy (1 to 4)	9,795.42

### Commission's Analysis

The total revenue as estimated by the Commission for FY 2017-18 is shown in the Table below:

**Table 5.95: Approved Total Revenue for FY 2017-18**

(Rs Crore)

Sr. No.	Particulars	2017-18
1	Revenue with Existing Tariff	6,297.77
2	Base FPPPA Charges @ 143 paisa/kWh	2709.24
3	Other Income (Consumer related)	252.35
4	Agriculture Subsidy	<b>536.06</b>
5	Total Revenue including subsidy (1 to 4)	9,795.42

## 5.9 Determination of differential Bulk Supply Tariff

The BST for DISCOMs includes the cost of power purchase from various generating stations, the transmission costs of PGCIL and GETCO and the cost of bulk supplier i.e. GUVNL. The revenue earned from sale of surplus power is subtracted from the total power purchase cost to arrive at



net power purchase cost to be charged to the four DISCOMs. The amount available for power purchase to the four DISCOMs is arrived at by subtracting the sum of total expenses other than the power purchase cost of all the four DISCOMs from the total revenue of the four DISCOMs with existing tariffs.

The difference between the net power purchase cost and the amount available with the four DISCOMs for power purchase indicates the revenue gap. This revenue gap varies from DISCOM to DISCOM. The bulk supply tariffs for the four DISCOMs are fixed keeping in view the magnitude of the revenue gap.

### 5.9.1 Aggregate amount available with the four DISCOMs for Power Purchase

The difference between the total revenues and the total expenses other than power purchase incurred by the four DISCOMs indicates the amount available for power purchase with the DISCOMs as shown below:

**Table 5.96: Aggregate Revenue available for power purchase from FY 2016-17 to FY 2020-21**

(Rs. Crore)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Total Revenue of DISCOM : (A)</b>					
DGVCL	11150	11722	12339	13003	13719
MGVCL	5482	5801	6141	6504	6892
PGVCL	12357	13091	13874	14712	15608
UGVCL	9404	9795	10204	10631	11078
<b>Total Revenue</b>	<b>38392</b>	<b>40410</b>	<b>42559</b>	<b>44851</b>	<b>47297</b>
<b>Expenditure other than Power Purchase : (B)</b>					
DGVCL	592	671	747	816	883
MGVCL	730	812	896	977	1065
PGVCL	1730	1956	2166	2349	2527
UGVCL	875	964	1046	1119	1189
<b>Total Expenditure</b>	<b>3926</b>	<b>4402</b>	<b>4855</b>	<b>5261</b>	<b>5664</b>
<b>Aggregate Amount Available with the DISCOM for Power Purchase : (A-B)</b>					



Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
DGVCL	10558	11051	11592	12187	12836
MGVCL	4752	4989	5246	5527	5827
PGVCL	10627	11135	11708	12363	13081
UGVCL	8529	8832	9158	9512	9889
<b>Total Amount available for Power Purchase</b>	<b>34466</b>	<b>36008</b>	<b>37704</b>	<b>39590</b>	<b>41634</b>

### 5.9.2 Calculation of Gap

The difference between the net power purchase cost and the aggregate amount available for power purchase represents the gap. The gap is as shown below:

**Table 5.97: Revenue Surplus/ (Gap) from FY 2016-17 to FY 2020-21**

(Rs. Crore)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
Total Power Purchase Cost (A)	33787	36144	38329	40558	44031
Aggregate Amount available for Power Purchase (B)	34466	36008	37704	39590	41634
<b>Surplus/ (Gap) (A-B)</b>	<b>679</b>	<b>(136)</b>	<b>(626)</b>	<b>(969)</b>	<b>(2397)</b>

### 5.9.3 Allocation of Gap

The gap calculated above has been allocated among the various DISCOMs in the ratio of the energy requirements (MUs) of the respective companies to the sector total energy requirements (MUs). The percentage of sales of each DISCOM and the gap allocation for each DISCOM are given in the following tables.



**Table 5.98: Approved energy requirement and percentage of energy requirement**

Year	Energy requirement					Percentage of Energy requirement			
	DGVCL	MGVCL	PGVCL	UGVCL	Total	DGVCL	MGVCL	PGVCL	UGVCL
2016-17	19,763	10,663	30,391	21,231	<b>82,048</b>	24%	13%	37%	26%
2017-18	20,825	11,251	31,680	22,206	<b>85,962</b>	24%	13%	37%	26%
2018-19	21,967	11,867	33,020	23,207	<b>90,061</b>	24%	13%	37%	26%
2019-20	23,170	12,510	34,626	24,238	<b>94,545</b>	25%	13%	37%	26%
2020-21	24,466	13,185	36,307	25,300	<b>99,258</b>	25%	13%	37%	25%

#### 5.9.4 Allocation of Gap from FY 2016-17 to FY 2020-21

**Table 5.99: Allocation of FY 2016-17 Surplus/ (gaps)**

(Rs Crore)

Sr. No.	Details	DGVCL	MGVCL	PGVCL	UGVCL
1	Total Surplus/ (gaps) (Rs Crore)	679			
2	Ratio of allocation of Surplus/ (gaps)	24%	13%	37%	26%
3	Surplus/ (gaps) allocation	163	88	251	176

**Table 5.100: Allocation of FY 2017-18 Surplus/ (gaps)**

(Rs Crore)

Sr. No.	Details	DGVCL	MGVCL	PGVCL	UGVCL
1	Total Surplus/ (gaps) (Rs Crore)	(136)			
2	Ratio of allocation of Surplus/ (gaps)	24%	13%	37%	26%
3	Surplus/ (gaps) allocation	(33)	(18)	(50)	(35)

**Table 5.101: Allocation of FY 2018-19 Surplus/ (gaps)**

(Rs Crore)

Sr. No.	Details	DGVCL	MGVCL	PGVCL	UGVCL
1	Total Surplus/ (gaps) (Rs Crore)	(626)			
2	Ratio of allocation of Surplus/ (gaps)	24%	13%	37%	26%
3	Surplus/ (gaps) allocation	(153)	(82)	(229)	(161)





**Table 5.102: Allocation of FY 2019-20 Surplus/ (gaps)**

(Rs Crore)

Sr. No.	Details	DGVCL	MGVCL	PGVCL	UGVCL
1	Total Surplus/ (gaps) (Rs Crore)	<b>(969)</b>			
2	Ratio of allocation of Surplus/ (gaps)	25%	13%	37%	26%
3	Surplus/ (gaps) allocation	(237)	(128)	(355)	(248)

**Table 5.103: Allocation of FY 2020-21 Surplus/ (gaps)**

(Rs Crore)

Sr. No.	Details	DGVCL	MGVCL	PGVCL	UGVCL
1	Total Surplus/ (gaps) (Rs Crore)	<b>(2397)</b>			
2	Ratio of allocation of Surplus/ (gaps)	25%	13%	37%	25%
3	Surplus/ (gaps) allocation	(591)	(318)	(877)	(611)

### 5.9.5 Bulk Supply Tariff

The allocated gap amount of each DISCOM has been added to the amount available for power purchase for that DISCOM and this amount has been divided by the number of units projected to be purchased by the DISCOM to arrive at BST at Rs/kWh. The details are given below:

**Table 5.104: Bulk Supply Tariff**

(Rs. Crore)

Bulk Supply Tariff : 2016-17	DGVCL	MGVCL	PGVCL	UGVCL
Amount available for Power Purchase	10558	4752	10627	8529
Surplus/ (gaps) allocated	163	88	251	176
Power Purchase Cost for DISCOM	10394	4664	10376	8353
Energy Purchased by DISCOM	19763	10663	30391	21231
<b>Bulk Supply Tariff (Rs/KWh)</b>	<b>5.26</b>	<b>4.37</b>	<b>3.41</b>	<b>3.93</b>



<b>Bulk Supply Tariff : 2017-18</b>	<b>DGVCL</b>	<b>MGVCL</b>	<b>PGVCL</b>	<b>UGVCL</b>
Amount available for Power Purchase	11051	4989	11135	8832
Surplus/ (gaps) allocated	(33)	(18)	(50)	(35)
Power Purchase Cost for DISCOM	11084	5007	11185	8867
Energy Purchased by DISCOM	20825	11251	31680	22206
<b>Bulk Supply Tariff (Rs/KWh)</b>	<b>5.32</b>	<b>4.45</b>	<b>3.53</b>	<b>3.99</b>

<b>Bulk Supply Tariff : 2018-19</b>	<b>DGVCL</b>	<b>MGVCL</b>	<b>PGVCL</b>	<b>UGVCL</b>
Amount available for Power Purchase	11592	5246	11708	9158
Surplus/ (gaps) allocated	(153)	(82)	(229)	(161)
Power Purchase Cost for DISCOM	11744	5328	11937	9319
Energy Purchased by DISCOM	21967	11867	33020	23207
<b>Bulk Supply Tariff (Rs/KWh)</b>	<b>5.35</b>	<b>4.49</b>	<b>3.62</b>	<b>4.02</b>

<b>Bulk Supply Tariff : 2019-20</b>	<b>DGVCL</b>	<b>MGVCL</b>	<b>PGVCL</b>	<b>UGVCL</b>
Amount available for Power Purchase	12187	5527	12363	9512
Surplus/ (gaps) allocated	(237)	(128)	(355)	(248)
Power Purchase Cost for DISCOM	12424	5655	12718	9761
Energy Purchased by DISCOM	23170	12510	34626	24238
<b>Bulk Supply Tariff (Rs/KWh)</b>	<b>5.36</b>	<b>4.52</b>	<b>3.67</b>	<b>4.03</b>

<b>Bulk Supply Tariff : 2020-21</b>	<b>DGVCL</b>	<b>MGVCL</b>	<b>PGVCL</b>	<b>UGVCL</b>
Amount available for Power Purchase	12836	5827	13081	9889
Surplus/ (gaps) allocated	(591)	(318)	(877)	(611)
Power Purchase Cost for DISCOM	13427	6145	13958	10500
Energy Purchased by DISCOM	24466	13185	36307	25300
<b>Bulk Supply Tariff (Rs/KWh)</b>	<b>5.49</b>	<b>4.66</b>	<b>3.84</b>	<b>4.15</b>



## 5.10 ARR for the control period FY 2016-17 to FY 2020-21

The Table below shows approval of Aggregate Revenue Requirement including power purchase cost of UGVCL for the control period FY 2016-17 to FY 2020-21.

**Table 5.105: Approved Multi-Year ARR for FY 2016-17 to FY 2020-21**

(Rs Crores)

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Power purchase cost	8353.44	8866.95	9319.37	9760.79	10499.76
2	Operation & Maintenance Expenses	419.08	443.05	468.40	495.19	523.51
2.1	Employee Cost	400.67	423.58	447.81	473.43	500.51
2.2	Repairs & Maintenance Expenses	83.71	88.50	93.56	98.91	104.57
2.3	Administration & General Expenses	71.60	75.69	80.02	84.60	89.44
2.4	Other Debits	-	-	-	-	-
2.5	Extraordinary Items	0.00	0.00	0.00	0.00	0.00
2.6	Net Prior Period Expenses / (Income)	-	-	-	-	-
2.7	Other Expenses Capitalised	(136.89)	(144.72)	(153.00)	(161.75)	(171.00)
3	Depreciation	289.67	331.74	368.61	399.19	427.81
4	Interest & Finance Charges	130.38	136.61	140.45	140.89	139.64
5	Interest on Working Capital	0.00	0.00	0.00	0.00	0.00
6	Provision for Bad Debts	0.70	0.70	0.70	0.70	0.70
7	<b>Sub-Total (1 to 6)</b>	<b>9193.28</b>	<b>9779.05</b>	<b>10297.53</b>	<b>10796.76</b>	<b>11591.42</b>
8	Return on Equity	164.32	181.11	197.59	212.51	226.97
9	Provision for Tax / Tax Paid	17.14	17.14	17.14	17.14	17.14
10	Total Expenditure (7 to 9)	<b>9374.74</b>	<b>9977.30</b>	<b>10512.26</b>	<b>11026.41</b>	<b>11835.53</b>
11	Less: Non-Tariff Income	146.76	146.76	146.76	146.76	146.76
12	<b>Aggregate Revenue Requirement (10 - 11)</b>	<b>9227.98</b>	<b>9830.54</b>	<b>10365.50</b>	<b>10879.65</b>	<b>11688.77</b>



## 5.11 Estimated Revenue Gap for FY 2017-18 for UGVCL

Based on the above, the estimated revenue gap for FY 2017-18 at existing tariff is as outlined in the Table below:

**Table 5.106: Estimated Revenue Gap for FY 2017-18 at Existing Tariff for UGVCL**

(Rs. Crore)

Sr. No.	Particulars	Projected by UGVCL for 2017-18	Approved for 2017-18
1	Aggregate revenue requirement	9969.73	<b>9830.54</b>
2	Revenue Surplus/ (gap) from True up of FY 2015-16	(331.96)	126.99
<b>3</b>	<b>Total aggregate revenue requirement (1-2)</b>	<b>10301.69</b>	<b>9703.55</b>
4	Revenue with existing tariff	6297.77	6297.77
5	PPPA charges @ 143 paisa/kWh	2709.24	2709.24
6	Other income (Consumer related)	252.35	252.35
<b>7</b>	<b>Agriculture Subsidy</b>	<b>536.06</b>	<b>536.06</b>
<b>8</b>	<b>Total revenue including subsidy (4+5+6+7)</b>	<b>9795.42</b>	<b>9795.42</b>
<b>9</b>	<b>Surplus/ (Gap) (3-8)</b>	<b>(506.27)</b>	<b>91.87</b>



## 6 Compliance of directives

### 6.1 Compliance to earlier directives

The Commission had instructed UGVCL to submit Compliance as per the Order dated 31st March 2016. Compliance of the Directives is as mentioned below:

#### **Directive 1: Category wise cost to serve report**

DISCOMs are directed to ensure that the cost to serve report is invariably submitted every year along with tariff petition.

#### **Compliance:**

UGVCL is in process of preparation of Cost to Serve report for FY 2015-16 and shall submit at the earliest.

#### **Commission's comments:**

Compliance is noted. UGVCL has submitted the cost to serve report on 16<sup>th</sup> February, 2017.

#### **Directive 2: Meters on Distribution Transformers**

UGVCL shall strive hard and install meters on the balance transformers by 31.12.2016 and submit a report to the Commission. Results of energy audit conducted be submitted to the Commission along with the action taken report by 31.12.2016.

#### **Compliance:**

UGVCL has completed 76% metering of DTC, and all circle heads are instructed to complete the balance work at the earliest. All field officers are instructed to speed up the process of installation of meters on distribution transformer the work will be completed before Mar-2017.

Status of Distribution Transformer metering as on 30th September, 2016 is as under:

Sr. No.	Particulars	Nos. as on 30.09.2016	Meters installed as on 30.9.2016	%age
1	Other Than Agriculture	45609	40751	89.35%



Sr. No.	Particulars	Nos. as on 30.09.2016	Meters installed as on 30.9.2016	%age
2	Agriculture	187679	137538	73.28%
3	Total	233288	178289	76.42%

### Commission's comments

As of August 2016, the DISCOM has been able complete metering on 76.42% of the transformers. UGVCL shall strive hard and install meters on the balance transformers at the earliest and submit quarterly reports to the Commission. Results of energy audit conducted be submitted to the Commission along with the action taken report by 30.06.2017.

### Directive 3: Losses on Jyoti Gram Yojana feeders

UGVCL is directed to put in serious and concerted efforts to bring down the losses on Jyoti Gram Yojana feeders.

### Compliance:

The Status of Distribution loss of JGY Feeders are as follows:

Sr. No.	Year	Unit sent out (MUs)	Unit sold out (MUs)	% Loss
1	2011-12	2189.22	1683.98	23.08
2	2012-13	2362.19	1837.12	22.23
3	2013-14	2529.81	1974.88	21.94
4	2014-15	2766.47	2182.68	21.10
5	2015-16	2955.16	2346.75	20.59
6	2016-17 (Upto Sep.'16)	1770.42	1410.34	20.34

From above we can see that % distribution losses is in reducing trends since 2011-12 from 23.08 % to 20.59 % (2015-16) i.e. reduced by 2.49 % in last five years. Company has made full efforts for reducing distribution losses on JGY feeders. Discom has also carried out activities like replacement of stop meters, provided electronics meters in place of slow and sluggish old electromechanical meters, provided Metal Meter Box, provided Aerial Bunch Conductor in place of open bare conductors, increase in HT/LT ratio, adoption of high voltage distribution system



(HVDS), preventive and regular maintenance, Load Balancing, publicity campaign on theft of electricity as a social and economic crime and people informed of the provisions in electricity laws, public relation and awareness campaigns by utility, etc. Also by constant monitoring from higher authority and respective officers on all the high loss feeders allocated, the micro plan has already been implemented for further reduction of losses on JGY feeders.

Besides other activities, following specific activities has been carried out by the Company:

Particulars	Unit	2013-14	2014-15	2015-16	2016-17 (Upto Sept.16)
Maintenance HT line	Km	139885	133201	117859	59994
Maintenance LT line	Km	70550	68918	56423	30038
Maintenance of Transformers	Nos	91827	85293	83111	44025
Feeder bifurcation	Nos	126	218	160	72
Arial Bunch Conductor	Km	118.43	239.33	68.54	14.93
XLPE Cable	Km	44.95	69.36	81.95	27.418
Meter Replacement 1-Ph	No.	274912	306050	134561	90198
Meter Replacement 3-Ph	No.	11569	13714	16212	7931
Renovation of Conductor	Km	58.06	130.27	12.03	46.46
Installation of 1-Ph SMC	No.	111981	110998	116956	63323
Installation of 3-Ph SMC	No.	24106	33819	35647	16925
Nos of connections Checked	No.	812981	756762	821183	334393
Nos of connections Detected	No.	12952	13981	12172	5864
Theft Assessment	Crores.	2.31	7.082	7.079	4.008

Taking into account the area constraints, available resources and past trend, Company has planned to reduce below 20% during the current financial year.

**Commission's comments:**

The feeders with more than 50% loss level should be identified and 5% loss reduction should be targeted for such feeders. UGVCL should submit quarterly report to the Commission, indicating loss reduction achieved for such feeders.

**Directive 4: Energy Audit and Segregation of HT & LT losses**

UGVCL is directed to conduct energy audit and submit energy audit report for transformers having different consumer mix along with action taken, if any, for reducing the losses. The Commission



further directs the Utilities to conduct a fresh evaluation study to work out exact losses in HT and LT side.

**Compliance:**

Energy Audit report on the basis of the meters installed at Distribution Transformer level shall be submitted by 31.12.2016 as directed.

The holding company (GUVNL) has appointed consultant for study and segregation of the HT & LT Losses (including Technical and Commercial Losses) in respect of four distribution Companies of GUVNL and the study report shall be submitted in due course.

**Commission's comments:**

UGVCL should submit the findings of the report to the Commission at the earliest.

## **6.2 Fresh Directives to UGVCL**

**Directive 1: Subsidy for Agricultural Consumers**

Some of the stakeholders pointed out that the Discoms are not providing separate details related to Subsidy claimed, Subsidy received and outstanding subsidy with the State Government. In view of the ambitious target for clearing backlog of pending application for Agricultural connections, the Discom is directed to report progress on release of Agricultural Connections along with details related to subsidy claimed under different heads, subsidy received and outstanding subsidy from the State Government on quarterly basis.

**Directive 2: Replacement of Defective Meters**

It is observed that a high number of defective meters exist in the system. Such a high number of defective meters in the system is not only affecting revenues of the Discom but it also is resulting into consumer grievances. Discom is directed to prepare detailed action plan for replacement of defective meters and submit the same by 30<sup>th</sup> June 2017.





### **Directive 3: Rooftop Solar Installations**

Discoms is directed to report the progress with the details like number of applications received, kW requested, approval given, installation completed, grid connectivity provided and electricity generated from such installation on quarterly basis.

### **Directive 4: Renegotiation of PPA for stranded generating stations due to non-availability of fuel or costly fuel**

Some of the stakeholders represented that there is adverse impact on tariff of the consumers because of fixed cost liability of some generating stations which are not working either due to non-availability of fuel or costly fuel. In view of the above, the Distribution Licensee is directed to explore the possibilities of reduction in fixed cost elements e.g. normative O&M charges, Return on Equity, normative interest on working capital etc. by renegotiating existing PPAs of such stranded generating stations. The Distribution Licensee is also directed to submit action taken report in this regard by 30th September, 2017.



## 7 Fuel and Power Purchase Price Adjustment

### 7.1 Fuel Price and Power Purchase Price Adjustment

The Commission its order in Case No. 1309/2013 and 1313/2013 vide dated 29.10.2013, has approved the formula as mentioned below:

$$\text{FPPPA} = [(\text{PPCA}-\text{PPCB})] / [100-\text{Loss in \%}]; \text{ Where,}$$

<b>PPCA</b>	is the average power purchase cost per unit of delivered energy (including transmission cost), computed based on the operational parameters approved by the Commission or principles laid down in the Power Purchase Agreements in Rs./kWh for all the generation sources as approved by the Commission while determining ARR and who have supplied power in the given quarter and transmission charges as approved by the Commission for transmission network calculated as total power purchase cost billed in Rs. Million divided by the total quantum of power purchase in Million Units made during the quarter.
<b>PPCB</b>	is the approved average base power purchase cost per unit of delivered energy (including transmission cost) for all the generating stations considered by the Commission for supplying power to the company in Rs./kWh and transmission charges as approved by the Commission calculated as the total power purchase cost approved by the Commission in Rs. Million divided by the total quantum of power purchase in Million Units considered by the Commission.
<b>Loss in %</b>	is the weighted average of the approved level of Transmission and Distribution losses (%) for the four DISCOMs / GUVNL and TPL applicable for a particular quarter or actual weighted average in Transmission and Distribution losses (%) for four DISCOMs / GUVNL and TPL of the previous year for which true-up have been done by the Commission, whichever is lower.



## 7.2 Base Price of Power Purchase (PPCB)

The Commission has approved the total energy requirement and the total Power Purchase Cost for all the DISCOMs including fixed cost, variable cost, GETCO cost, PGCIL charges, SLDC charges for FY 2017-18 from various sources as given in the Table below:

Sr. No.	Particulars	Cost (Rs. Crores)
1	Fixed Cost	12913
2	Variable Cost	18302
3	GETCO Cost	3407
4	GUVNL Cost	350
5	PGCIL Charge	1591
6	SLDC Charge	16
8	<b>Total Power purchase Cost</b>	<b>36579</b>
9	<b>Total Energy Requirements</b>	<b>87619</b>
10	<b>Power purchase Cost(Rs. / kWh)</b>	<b>4.17</b>

As mentioned above the base Power Purchase cost for the DISCOMs is **Rs. 4.17/kWh**.

GUVNL/DISCOMs may claim difference between actual power purchase cost and base power purchase cost approved in the table above as per the approved FPPPA formula mentioned in **Section 7.1** above.

Information regarding FPPPA recovery and the FPPPA calculations shall be kept on the website of the Licensee / GUVNL.

For any increase in FPPPA, worked out on the basis of above formula, beyond ten (10) paise per kWh in a quarter, prior approval of the Commission shall be necessary and only on approval of such additional increase by the Commission, the FPPPA can be billed to consumers.

FPPPA calculations shall be submitted to the Commission within one month from the end of the relevant quarter.



### **7.3 Shifting of base Price of Power Purchase (PPCB)**

**UGVCL** has proposed to shift the base power purchase cost from FY 2012-13 to FY 2015-16 resulting into the revision of FPPPA charges from existing 120 paisa per kWh to 143 paisa per kWh as per the weighted average actual FPPPA charges of FY 2015-16.

**The Commission verified the actual power purchase cost of FY 2015-16, and after prudence scrutiny approves the shifting of base power purchase cost from FY 2012-13 level to FY 2015-16 level, i.e. Rs. 1.43 per unit.**



## 8 Wheeling charges and cross subsidy surcharge

### 8.1 Allocation matrix

Regulations 87 of MYT Regulations, 2016 of GERC stipulates that the Commission shall specify the wheeling charges of distribution wires business of the distribution licensees in its ARR and Tariff Order.

UGVCL has provided the allocation matrix for allocation of costs between wires business and retail supply business as notified in the GERC (MYT) Regulations, 2016 (Regulation 87) as shown in the table below:

**Table 8.1: Allocation matrix for segregation of wheeling and retail supply for UGVCL for the FY 2017-18**

Sr. No.	Allocation Matrix	Wire Business	Retail Supply Business
1	Power Purchase Expenses	0%	100%
2.1	Employee expenses	60%	40%
2.2	Repair & Maintenance expenses	90%	10%
2.3	Administration & General Expenses	50%	50%
2.4	Other Debits	50%	50%
2.5	Extraordinary Items	50%	50%
2.6	Net Prior Period Expenses / (Income)	25%	75%
2.7	Other Expenses Capitalized	55%	45%
3	Depreciation	90%	10%
4	Interest & Finance charges	90%	10%
5	Interest on Working Capital & Security Deposit	10%	90%
6	Bad debts written off	0%	100%
7	Income tax	90%	10%
8	Return on Equity	90%	10%
9	Non-tariff income	10%	90%

Based on the above allocation the approved ARR for wires business and retail supply business are computed for UGVCL for FY 2017-18.



**Table 8.2: Allocation of ARR between wheeling and retail supply business for UGVCL for FY 2017-18 (Rs Crore)**

Sr. No.	Particulars for FY 2017-18	Distribution	Wire Business	Retail Supply Business
1	Power Purchase Expenses	8866.95	0.00	8866.95
2	Operation & Maintenance Expenses	443.05	292.05	151.01
2.1	Employee Expenses	423.58	254.15	169.43
2.2	Repairs & Maintenance Expenses	88.50	79.65	8.85
2.3	Administration & General Expenses	75.69	37.85	37.85
2.4	Other Debits	-	0.00	0.00
2.5	Extraordinary Items	0.00	0.00	0.00
2.6	Net Prior Period Expenses / (Income)	-	0.00	0.00
2.7	Other Expenses Capitalised	(144.72)	(79.60)	(65.12)
3	Depreciation	331.74	298.57	33.17
4	Interest & Finance Charges	43.28	38.95	4.33
5	Interest on Security Deposit	93.33	9.33	84.00
6	Interest on Working Capital	0.00	0.00	0.00
7	Bad Debts written off	0.70	0.00	0.70
8	Contribution to contingency reserves	-	0.00	0.00
9	<b>Total Revenue Expenditure</b>	<b>9779.05</b>	<b>638.89</b>	<b>9140.15</b>
10	Return on Equity Capital	181.11	163.00	18.11
11	Income Tax	17.14	15.43	1.71
12	<b>Aggregate Revenue Requirement</b>	<b>9977.30</b>	<b>817.32</b>	<b>9159.98</b>
13	Less: Non-Tariff Income	146.76	14.68	132.08
14	Less: Income from Other Business	0.00	0.00	0.00
15	<b>Aggregate Revenue Requirement</b>	<b>9830.54</b>	<b>802.64</b>	<b>9027.90</b>

## 8.2 Wheeling charges

The wheeling charges for the four Distribution Companies, DGVCL, MGVCL, PGVCL and UGVCL for the FY 2017-18, as given below are applicable for use of the distribution system of a licensee by other licenses or generating companies or captive power plants or consumers / users who are permitted open access under Section 42 (2) of the Electricity Act, 2003.



**Table 8.3: Wheeling charges for FY 2017-18**

Sr. No.	Particulars	Units	Amount
1	Distribution costs of the four DISCOMs	Rs. Crore	3802.32
2	Distribution cost of the four DISCOMs at 11 kV level (30% of total distribution cost)	Rs. Crore	1140.70
3	Distribution cost of the four DISCOMs at LT level (70% of total distribution cost)	Rs. Crore	2661.62
3	Energy input at 11 kV	MUs	81418
4	<b>Wheeling charges at 11 kV</b>	<b>Ps./kWh</b>	<b>14.01</b>
5	Energy Input at 400 V	MUs	49302
5	<b>Wheeling charges at 400 V (LT)</b>	<b>Ps./kWh</b>	<b>53.99</b>

Accordingly the Commission approves wheeling charges for HT network (11 KV system) at 14 Paise per unit and wheeling charges for LT network (400 V system) at 54 Paise per unit.

#### **Distribution losses**

The distribution loss at 11 kV and 400 V during FY 2017-18 are given below:

Particulars	Point of energy delivered	
	11 kV	400 Volts
11 kV, 22 kV and 33 kV	10%	14.24%
400 Volts		7.01%

The losses in HT and LT network are 10% and 7.01% respectively, with respect to energy input to the segment of the system. In case injection at 11 kV levels and drawal at LT level envisages use of both the networks i.e. 11 kV and LT, in that case, the combined loss works out to 14.24% of the energy injection at 11 kV network.

The above wheeling charges payable shall be uniform in all the four distribution companies, DGVCL, MGVCL, PGVCL and UGVCL.



### 8.3 Cross subsidy charges

The cross subsidy surcharge is based on the formula given in the Tariff Policy as below:

$$S = T - [C / (1 - L/100) + D + R]$$

Where,

- T is the tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation
- C is the per unit weighted average cost of power purchase by the Licensee, including meeting the Renewable Purchase Obligation
- D is the aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level
- L is the aggregate of transmission, distribution and commercial losses, expressed as a percentage applicable to the relevant voltage level
- R is the per unit cost of carrying regulatory assets.

The cross subsidy surcharge based on the above formula is worked out as shown in the Table below:

**Table 8.4: Cross subsidy surcharge for FY 2017-18**

Sr. No.	Particulars	Units	HT Industry
1	T	Rs/ kWh	7.22
2	C	Rs/ kWh	4.17
3	D	Paise/ kWh	14
4	L	%	10%
5	S (cross subsidy surcharge)	Rs/ kWh	2.44

$$S = 7.22 - [4.17 / (1 - 0.10) + (14/100) + 0] = 2.44$$

Thus, Cross subsidy surcharge as per Tariff Policy, 2016 works out to Rs. 2.44 /kWh for the four State owned Distribution companies viz. DGVCL, MGVCL, PGVCL and UGVCL.





However, Tariff Policy, 2016 provides that the surcharge shall not exceed 20% of the tariff applicable to the category of the consumers seeking Open Access.

In view of above, the Commission decided to restrict the Cross Subsidy Surcharge leviable from the consumers of the four State Owned Distribution Companies, seeking Open Access, for FY 2017-18 at Rs. 1.44 /kWh.

Accordingly, Cross subsidy surcharge for HT Category = **1.44 Rs /kWh for FY 2017-18.**



## **9 Tariff Philosophy and Tariff Proposals**

### **9.1 Introduction**

The Commission is guided by the provisions of the Electricity Act, 2003, the National Electricity Policy (NEP), the Tariff Policy, the Regulations on Terms and Conditions of Tariff issued by the Central Electricity Regulatory Commission (CERC) and GERC (MYT) Regulations, 2016 notified by the Commission.

Section 61 of the Act lays down the broad principles, and guidelines for determination of retail supply tariff. The basic principle is to ensure that the tariff should progressively reflect the cost of supply of electricity and reduce the cross subsidies amongst categories within a period to be specified by the Commission.

### **9.2 DISCOMs Tariff Proposal and Changes in Tariff Structure**

There are no changes/revision/modification proposed in the tariff structure by UGVCL for FY 2017-18.

### **9.3 Commission's Analysis**

The petitioner has not proposed any revision in the tariff structure and rates. There is estimated surplus of Rs. 655 Crore for all four Discoms at the end of FY 2017-18. The main reason for resultant surplus is non-consideration of provision of Rs. 1916 Crore against procurement of power reflected in the audited accounts of GUVNL for FY 2015-16. Further, while projecting employee cost for the MYT control period, impact of wage revision due to 7<sup>th</sup> CPC implementation is not factored. In view of the above and in order to avoid future tariff shock, the Commission has decided not to modify the existing tariff rates of retail consumers for FY 2017-18.

The Commission also observes that the stakeholders have suggested few modifications in the tariff structure as detailed below-



### **1. Cost reflective tariff**

Some of the stakeholders have suggested to attempt cost-reflective tariff in accordance with the Tariff Policy. In this regard, directive was also issued to the Distribution Licensee for category-wise 'Cost of Supply' report. However, the petitioner has not submitted the 'Cost of Supply' Report for the FY 2015-16 along with the petition.

Now, the Commission is in receipt of the 'Cost of Supply' report from the petitioner. Commission would like to invite suggestions and comments on 'Cost of Supply' Report from all the stakeholders and to prepare detailed discussion paper for 'Roadmap of Gradual reduction in Cross-subsidisation'.

Further, in view of the approved ARR and Revenue for the FY 2017-18 and as no modification proposed by the Petitioner, the Commission decides to continue with the existing Tariff Rates for the FY 2017-18.

### **2. Demand based tariff for small consumers**

Some Industries Association have suggested that the benefit of 'Demand based Fixed Charges' shall also be extended to small industrial consumers.

In this regard, the Commission would like to inform that in the existing tariff structure for LTMD category, it is mentioned that-

"This tariff shall also be applicable to consumer covered in category-'Rate: Non-RGP' so opts to be charged in place of 'Rate: Non-RGP' tariff."

Accordingly, the option of demand based tariff is available to small consumers also.

### **3. Addition of slab for monthly consumption above 400 units per month for residential consumers**

The stakeholder suggested to introduce one more slab for monthly consumption more than 400 units. The Commission appreciates the suggestion of stakeholder for rationalization of slabs for residential category. In order to implement this suggestion of rationalization of residential slabs across all the Discoms, the Commission feels that detailed information of slab-wise data,



computation and analysis is required. The Commission will collect all the information required from all Discoms and based on detailed computation and analysis further action in this regard will be taken.



### Commission's Order

The Commission approves the Aggregate Revenue Requirement (ARR) for UGVCL for FY 2016-17 to FY 2020-21 as shown in the Table below:

Sr. No.	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
1	Power purchase cost	8353.44	8866.95	9319.37	9760.79	10499.76
2	Operation & Maintenance Expenses	419.08	443.05	468.40	495.19	523.51
2.1	Employee Cost	400.67	423.58	447.81	473.43	500.51
2.2	Repairs & Maintenance Expenses	83.71	88.50	93.56	98.91	104.57
2.3	Administration & General Expenses	71.60	75.69	80.02	84.60	89.44
2.4	Other Debits	-	-	-	-	-
2.5	Extraordinary Items	0.00	0.00	0.00	0.00	0.00
2.6	Net Prior Period Expenses / (Income)	-	-	-	-	-
2.7	Other Expenses Capitalised	(136.89)	(144.72)	(153.00)	(161.75)	(171.00)
3	Depreciation	289.67	331.74	368.61	399.19	427.81
4	Interest & Finance Charges	130.38	136.61	140.45	140.89	139.64
5	Interest on Working Capital	0.00	0.00	0.00	0.00	0.00
6	Provision for Bad Debts	0.70	0.70	0.70	0.70	0.70
7	<b>Sub-Total (1 to 6)</b>	<b>9193.28</b>	<b>9779.05</b>	<b>10297.53</b>	<b>10796.76</b>	<b>11591.42</b>
8	Return on Equity	164.32	181.11	197.59	212.51	226.97
9	Provision for Tax / Tax Paid	17.14	17.14	17.14	17.14	17.14
10	<b>Total Expenditure (7 to 9)</b>	<b>9374.74</b>	<b>9977.30</b>	<b>10512.26</b>	<b>11026.41</b>	<b>11835.53</b>
11	Less: Non-Tariff Income	146.76	146.76	146.76	146.76	146.76
12	<b>Aggregate Revenue Requirement (10 - 11)</b>	<b>9227.98</b>	<b>9830.54</b>	<b>10365.50</b>	<b>10879.65</b>	<b>11688.77</b>



The retail supply tariffs for UGVCL distribution area for FY 2017-18 determined by the Commission are annexed to this order. This order shall come into force with effect from the 1st April, 2017. The revised rate shall be applicable for the electricity consumption from the 1st April, 2017 onwards.

Sd/-

**P. J. THAKKAR**  
Member

Sd/-

**K. M. SHRINGARPURE**  
Member

Sd/-

**ANAND KUMAR**  
Chairman

**Place: Gandhinagar**

**Date: 31/03/2017**



## **ANNEXURE: TARIFF SCHEDULE**

### **TARIFF FOR SUPPLY OF ELECTRICITY AT LOW TENSION, HIGH TENSION, AND EXTRA HIGH TENSION**

**Effective from 1<sup>st</sup> April, 2017**

#### **GENERAL**

1. The tariff figures indicated in this tariff schedule are the tariff rates payable by the consumers of Distribution Licensees viz. DGVCL, MGVL, PGVL and UGVL.
2. These tariffs are exclusive of Electricity Duty, tax on sale of electricity, taxes and other charges levied by the Government or other competent authorities from time to time which are payable by the consumers, in addition to the charges levied as per the tariff.
3. All these tariffs for power supply are applicable to only one point of supply.
4. The charges specified are on monthly basis. Distribution Licensee may decide the period of billing and adjust the tariff rate accordingly.
5. Except in cases where the supply is used for purposes for which a lower tariff is provided in the tariff schedule, the power supplied to any consumer shall be utilized only for the purpose for which supply is taken and as provided for in the tariff.
6. Meter charges shall be applicable as prescribed under 'GERC (Licensee's Power to Recover Expenditure incurred in providing supply and other Miscellaneous Charges) Regulations, 2005 as in force from time to time.
7. The various provisions of the GERC (Licensee's Power to Recover Expenditure incurred in providing supply and other Miscellaneous Charges) Regulations will continue to apply.
8. Conversion of Ratings of electrical appliances and equipments from kilowatt to B.H.P. or vice versa will be done, when necessary, at the rate of 0.746 kilowatt equal to 1 B.H.P.
9. The billing of fixed charges based on contracted load or maximum demand shall be done in multiples of 0.5 (one half) Horse Power or kilo watt (HP or kW) as the case may be. The fraction of less than 0.5 shall be rounded off to next 0.5. The billing of energy charges will be done on complete one kilo-watt-hour (kWh).
10. The Connected Load for the purpose of billing will be taken as the maximum load connected



during the billing period.

11. The Fixed charges, minimum charges, demand charges, meter rent and the slabs of consumption of energy for energy charges mentioned shall not be subject to any adjustment on account of existence of any broken period within billing period arising from consumer supply being connected or disconnected any time within the duration of billing period for any reason.
12. Prompt payment discount on the total bill excluding all types of levies, duties or taxes levied by the Government or any other competent authorities and meter rent but including fixed charges, energy charges and minimum charge may be allowed at the 1% rate for all tariff categories provided that the payment is made within 7 days of presentation of bill and that no previous amount is outstanding as on the date of the bill.
13. Contract Demand shall mean the maximum kW / kVA for the supply of which licensee undertakes to provide facilities to the consumer from time to time.
14. Fuel Cost and Power Purchase Adjustment Charges shall be applicable in accordance with the Formula approved by the Gujarat Electricity Regulatory Commission from time to time.
15. Payment of penal charges for usage in excess of contract demand / load for any billing period does not entitle the consumer to draw in excess of contract demand / load as a matter of right.
16. The payment of power factor penalty does not exempt the consumer from taking steps to improve the power factor to the levels specified in the Regulations notified under the Electricity Act, 2003 and licensee shall be entitled to take any other action deemed necessary and authorized under the Act.
17. Delayed payment charges for all consumers:
  - No delayed payment charges shall be levied if the bill is paid within ten days from the date of billing (excluding date of billing).
  - Delayed payment charges will be levied at the rate of 15% per annum in case of all consumers except Agricultural category for the period from the due date till the date of payment if the bill is paid after due date. Delayed payment charges will be levied at the rate of 12% per annum for the consumer governed under Rate AG from the due date till the date of payment if the bill is paid after due date.





- For Government dues, the delayed payment charges will be levied at the rate provided under the relevant Electricity Duty Act.



**PART - I**  
**SCHEDULE OF TARIFF FOR SUPPLY OF ELECTRICITY**  
**AT LOW AND MEDIUM VOLTAGE**

**1. RATE: RGP**

This tariff is applicable to all services in the residential premises which are not covered under 'Rate: RGP (Rural)' Category.

- Single-phase supply- Aggregate load up to 6 kW
- Three-phase supply- Aggregate load above 6 kW

**1.1 FIXED CHARGES / MONTH:**

Range of Connected Load: (Other than BPL Consumers)

(a)	Up to and including 2 kW	Rs. 15/- per month
(b)	Above 2 to 4 kW	Rs. 25/- per month
(c)	Above 4 to 6 kW	Rs. 45/- per month
(d)	Above 6 kW	Rs. 70/- per month

For BPL Household Consumers:

Fixed charges	Rs. 5/- per month
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**PLUS**

**1.2 ENERGY CHARGES: FOR THE TOTAL MONTHLY CONSUMPTION:**  
**(OTHER THAN BPL CONSUMERS)**

(a)	First 50 units	305 Paise per Unit
(b)	Next 50 units	350 Paise per Unit
(c)	Next 100 units	415 Paise per Unit



(d)	Next 50 units	425 Paise per Unit
(e)	Above 250 units	520 Paise per Unit

### 1.3 ENERGY CHARGES: FOR THE TOTAL MONTHLY CONSUMPTION:

#### FOR THE CONSUMER BELOW POVERTY LINE (BPL)\*\*

(a)	First 30 units	150 Paise per Unit
(b)	For remaining units	Rate as per RGP

\*\*The consumer who wants to avail the benefit of the above tariff has to produce a copy of the Card issued by the authority concerned at the sub-division office of the Distribution Licensee. The concessional tariff is only for 30 units per month.

### 1.4 MINIMUM BILL (EXCLUDING METER CHARGES)

Payment of fixed charges as specified in 1.1 above.

## 2. RATE: RGP (RURAL)

This tariff is applicable to all services for residential premises located in areas within Gram Panchayat as defined in the Gujarat Panchayats Act.

- Single-phase supply- Aggregate load up to 6 kW
- Three-phase supply- Aggregate load above 6 kW

### 2.1 FIXED CHARGES / MONTH:

Range of Connected Load: (Other than BPL Consumers)

(a)	Up to and including 2 kW	Rs. 15/- per month
(b)	Above 2 to 4 kW	Rs. 25/- per month



(c)	Above 4 to 6 kW	Rs. 45/- per month
(d)	Above 6 kW	Rs. 70/- per month

For BPL Household Consumers:

Fixed charges	Rs. 5/- per month
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**PLUS**

## **2.2 ENERGY CHARGES: FOR THE TOTAL MONTHLY CONSUMPTION:**

**(OTHER THAN BPL CONSUMERS)**

(a)	First 50 units	265 Paise per Unit
(b)	Next 50 units	310 Paise per Unit
(c)	Next 100 units	375 Paise per Unit
(d)	Next 50 units	385 Paise per Unit
(e)	Above 250 units	490 Paise per Unit

## **2.3 ENERGY CHARGES: FOR THE TOTAL MONTHLY CONSUMPTION:**

**FOR THE CONSUMER BELOW POVERTY LINE (BPL) \*\***

(a)	First 30 units	150 Paise per Unit
(b)	For remaining units	Rate as per RGP (Rural)

\*\*The consumer who wants to avail the benefit of the above tariff has to produce a copy of the Card issued by the authority concerned at the sub-division office of the Distribution Licensee. The concessional tariff is only for 30 units per month.



## 2.4 MINIMUM BILL (EXCLUDING METER CHARGES):

Payment of fixed charges as specified in 2.1 above.

*Note: If the part of the residential premises is used for non-residential (commercial) purposes by the consumers located within 'Gram Panchayat' as defined in Gujarat Panchayat Act, entire consumption will be charged under this tariff.*

## 3. RATE: GLP

This tariff is applicable to the educational institutes and other institutions registered with the Charity Commissioner and research and development laboratories.

(a)	Fixed charges	Rs. 70/- per month
(b)	Energy charges	390 Paise per Unit

## 4. RATE: NON-RGP

This tariff is applicable to the services for the premises those are not covered in any other tariff categories and having aggregate load up to and including 40 kW.

### 4.1 FIXED CHARGES PER MONTH:

(a)	First 10 kW of connected load	Rs. 50/- per kW
(b)	For next 30 kW of connected load	Rs. 85/- per kW

**PLUS**

### 4.2 ENERGY CHARGES:

(a)	For installation having contracted load up to and including 10 kW: for entire consumption during the month	435 Paise per Unit
(b)	For installation having contracted load exceeding 10 kW: for entire consumption during the month	465 Paise per Unit



#### **4.3 MINIMUM BILL PER INSTALLATION FOR SEASONAL CONSUMERS**

(a) “Seasonal Consumer”, shall mean a consumer who takes and uses power supply for ice factory, ice candy machines, ginning and pressing factory, oil mill, rice mill, huller, salt industry, sugar factory, khandsari, cold storage plants (including such plants in fisheries industry), tapioca industries manufacturing starch, etc.

(b) Any consumer, who desires to be billed for the minimum charges on annual basis shall intimate to that effect in writing at least one month before commencement of billing period about the off-season during which energy consumption, if any, shall be mainly for overhauling of the plant and machinery. The off-season period at any time shall be a full calendar month/months. The total period of the off-season so declared and observed shall be not less than three calendar months in a calendar year.

(c) The total minimum amount under the head “Fixed and Energy Charges” payable by the seasonal consumer satisfying the eligibility criteria under sub-clause (a) above and complying with the provision stipulated under sub-clause (b) above shall be Rs. 1800 per annum per kW of the contracted load.

(d) The units consumed during the off-season period shall be charged for at a flat rate of 480 Paise per unit.

(e) The electricity bills related to the off-season period shall not be taken into account towards the amount payable against the annual minimum bill. The amount paid by the consumer towards the electricity bills related to the seasonal period only under the heads “Fixed Charges” and “Energy Charges”, shall be taken into account while determining the amount of short-fall payable towards the annual minimum bill as specified under sub-clause (c) above.

#### **5. RATE: LTMD**

This tariff is applicable to the services for the premises those are not covered in any other tariff categories and having aggregate load above 40 kW and up to 100 kW.

This tariff shall also be applicable to consumer covered in category- ‘Rate: Non-RGP’ so opts to



be charged in place of 'Rate: Non-RGP' tariff.

#### 5.1 FIXED CHARGES:

	For billing demand up to the contract demand	
(a)	(i) For first 40 kW of billing demand	Rs. 90/- per kW per month
	(ii) Next 20 kW of billing demand	Rs. 130/- per kW per month
	(iii) Above 60 kW of billing demand	Rs. 195/- per kW per month
(b)	For billing demand in excess of the contract demand	Rs. 265/- per kW

**PLUS**

#### 5.2 ENERGY CHARGES:

For the entire consumption during the month	460 Paise per Unit
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**PLUS**

#### 5.3 REACTIVE ENERGY CHARGES:

For all the reactive units (KVARH) drawn during the month	10 paise per KVARH
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#### 5.4 BILLING DEMAND

The billing demand shall be highest of the following:

- (a) Eighty-five percent of the contract demand
- (b) Actual maximum demand registered during the month
- (c) 15 kW



## **5.5 MINIMUM BILL**

Payment of demand charges every month based on the billing demand.

## **5.6 SEASONAL CONSUMERS TAKING LTMD SUPPLY:**

- 5.6.1** The expression, “Seasonal Consumer”, shall mean a consumer who takes and uses power supply for ice factory, ice-candy machines, ginning and pressing factory, oil mill, rice mill, salt industry, sugar factory, khandsari, cold storage plants (including such plants in fishery industry), tapioca industries manufacturing starch, pumping load or irrigation, white coal manufacturers etc.
- 5.6.2** Any consumer, who desires to be billed for the minimum charges on annual basis shall intimate to that effect in writing at least one month before commencement of billing period about the off-season during which energy consumption, if any, shall be mainly for overhauling of the plant and machinery. The off-season period at any time shall be a full calendar month/months. The total period of the off-season so declared and observed shall be not less than three calendar months in a calendar year.
- 5.6.3** The total minimum amount under the head “Demand and Energy Charges” payable by a seasonal consumer satisfying the eligibility criteria under sub-clause 5.6.1 above and complying with provisions stipulated under sub-clause 5.6.2 above shall be Rs. 2970 per annum per kW of the billing demand.
- 5.6.4** The billing demand shall be the highest of the following:
- (a) The highest of the actual maximum demand registered during the calendar year.
  - (b) Eighty-five percent of the arithmetic average of contract demand during the year.
  - (c) 15 kW.
- 5.6.5** Units consumed during the off-season period shall be charged for at the flat rate of 470 Paise per unit.

## **6. RATE: NON-RGP NIGHT**

This tariff is applicable for aggregate load up to 40 kW and using electricity **exclusively during**





**night hours** from 10:00 PM to 06:00 AM next day. (The supply hours shall be regulated through time switch to be provided by the consumer at his cost.)

**6.1 FIXED CHARGES PER MONTH:**

50% of the Fixed charges specified in Rate Non-RGP above.
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**PLUS**

**6.2 ENERGY CHARGES:**

For entire consumption during the month	260 Paise per Unit
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**NOTE:**

1. 15% of the contracted demand can be availed beyond the night hours prescribed as per para 6 above.
2. 10% of total units consumed during the billing period can be availed beyond the night hours prescribed as per para 6 above.
3. In case the consumer failed to observe condition no. 1 above during any of the billing month, then demand charge during the relevant billing month shall be billed as per Non-RGP category demand charge rates given in para 4.1 of this schedule.
4. In case the consumer failed to observe condition no. 2 above during any of the billing month, then entire energy consumption during the relevant billing month shall be billed as per Non-RGP category energy charge rates given in para 4.2 of this schedule.
5. In case the consumer failed to observe above condition no. 1 and 2 both during any of the billing month, then demand charge and entire energy consumption during the relevant billing month shall be billed as per Non-RGP category demand charge and energy charge rates given in para 4.1 and 4.2 respectively, of this schedule.
6. This tariff shall be applicable if the consumer so opts to be charged in place of Non-RGP tariff by using electricity exclusively during night hours as above.
7. The option can be exercised to switch over from Non-RGP tariff to Non-RGP Night tariff and



*vice versa twice in a calendar year by giving not less than one month's notice in writing.*

## **7. RATE: LTMD- NIGHT**

This tariff is applicable for aggregate load above 40 kW and using electricity **exclusively during night hours** from 10.00 PM to 06.00 AM next day. (The supply hours shall be regulated through time switch to be provided by the consumer at his cost.)

### **7.1 FIXED CHARGES PER MONTH:**

50% of the Fixed charges specified in Rate <b>LTMD</b> above.
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**PLUS**

### **7.2 ENERGY CHARGES:**

For entire consumption during the month	260 Paise per Unit
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**PLUS**

### **7.3 REACTIVE ENERGY CHARGES:**

For all reactive units (KVARH) drawn during the month	10 Paise per KVARH
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#### **NOTE:**

1. 15% of the contracted demand can be availed beyond the night hours prescribed as per para 7 above.
2. 10% of total units consumed during the billing period can be availed beyond the night hours prescribed as per para 7 above.
3. In case the consumer failed to observe condition no. 1 above during any of the billing month, then demand charge during the relevant billing month shall be billed as per LTMD category demand charge rates given in para 5.1 of this schedule.
4. In case the consumer failed to observe condition no. 2 above during any of the billing month, then entire energy consumption during the relevant billing month shall be billed as per LTMD



*category energy charge rates given in para 5.2 of this schedule.*

5. *In case the consumer failed to observe above condition no. 1 and 2 both during any of the billing month, then demand charge and entire energy consumption during the relevant billing month shall be billed as per LTMD category demand charge and energy charge rates given in para 5.1 and 5.2 respectively, of this schedule.*
6. *This tariff shall be applicable if the consumer so opts to be charged in place of LTMD tariff by using electricity exclusively during night hours as above.*
7. *The option can be exercised to switch over from LTMD tariff to LTMD Night tariff and vice versa twice in a calendar year by giving not less than one month's notice in writing.*

#### **8. RATE: LTP- LIFT IRRIGATION**

Applicable for supply of electricity to Low Tension Agricultural consumers contracting load up to 125 HP requiring continuous (twenty-four hours) power supply for lifting water from surface water sources such as canal, river, & dam and supplying water directly to the fields of farmers for agricultural irrigation only.

(a)	Fixed charges per month	Rs. 45/- per HP
<b>PLUS</b>		
(b)	Energy charges For entire consumption during the month	180 Paise per Unit

#### **9. RATE: WWSP**

This tariff shall be applicable to services used for water works and sewerage pumping purposes.

##### **9.1 Type I – Water works and sewerage pumps operated by other than local authority:**

(a)	Fixed charges per month	Rs. 25/- per HP
<b>PLUS</b>		



(b)	Energy charges per month: For entire consumption during the month	430 Paise per Unit
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**9.2 Type II** – Water works and sewerage pumps operated by local authority such as Municipal Corporation, Gujarat Water Supply & Sewerage Board located outside Gram Panchayat Area will also attract this tariff:

(a)	Fixed charges per month	Rs. 20 per HP
<b>PLUS</b>		
(b)	Energy charges per month: For entire consumption during the month	410 Paise per Unit

**9.3 Type III** – Water works and sewerage pumps operated by Municipalities / Nagarpalikas and Gram Panchayats or Gujarat Water Supply & Sewerage Board for its installations located in Gram Panchayats:

Energy charges per month: For entire consumption during the month	320 Paise/Unit
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**9.4 TIME OF USE DISCOUNT:**

Applicable to all the water works consumers having connected load of 50 HP and above for the energy consumption during the Off-Peak Load Hours of the Day.

For energy consumption during the off-peak period, viz., 1100 Hrs. to 1800 Hrs.	40 Paise per Unit
For energy consumption during night hours, viz., 2200 Hrs. to 0600 Hrs. next day	85 Paise per Unit



## **10. RATE: AG**

This tariff is applicable to services used for irrigation purposes only excluding installations covered under LTP- Lift Irrigation category.

**10.1** The rates for following group are as under:

### **10.1.1 HP BASED TARIFF:**

For entire contracted load	Rs. 200 per HP per month
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### **ALTERNATIVELY**

### **10.1.2 METERED TARIFF:**

Fixed Charges	Rs. 20 per HP per month
Energy Charges: For entire consumption	60 Paise per Unit per month

### **10.1.3 TATKAL SCHEME:**

Fixed Charges	Rs. 20 per HP per month
Energy Charges: For entire consumption	80 Paise per Unit per month

NOTE: The consumers under Tatkal Scheme shall be eligible for normal metered tariff as above, on completion of five years period from the date of commencement of supply.

**10.2** No machinery other than pump water for irrigation (and a single bulb or CFL up to 40 watts) will be permitted under this tariff. Any other machinery connected in the installation governed under this tariff shall be charged separately at appropriate tariff for which consumers shall have to take separate connection.

**10.3** Agricultural consumers who desire to supply water to brick manufacturing units shall have to pay Rs. 100/HP per annum subject to minimum of Rs. 2000/- per year for each brick Mfg. Unit to which water is supplied in addition to existing rate of HP based / metered



agricultural tariff.

- 10.4** Such Agricultural consumers shall have to pay the above charges for a full financial year irrespective of whether they supply water to the brick manufacturing unit for full or part of the Financial Year.

Agricultural consumers shall have to declare their intention for supply of the water to such brick manufacturing units in advance and pay charges accordingly before commencement of the financial year (i.e. in March every year).

**11. RATE: SL**

**11.1 Tariff for Street Light for Local Authorities and Industrial Estates:**

This tariff includes the provision of maintenance, operation and control of the street lighting system.

**11.1.1 ENERGY CHARGES:**

For all the units consumed during the month:	405 Paise per Unit
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**11.1.2 OPTIONAL KVAH CHARGES:**

For all the kVAh units consumed during the month:	305 Paise per Unit
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**11.1.3 Renewal and Replacements of Lamps:**

The consumer shall arrange for renewal, maintenance and replacement of lamp, associated Fixture, connecting wire, disconnecting device, switch including time switch etc. at his cost by person authorised by him in this behalf under Rule-3 of the Indian Electricity Rules, 1956 / Rules issued by CEA under the Electricity Act, 2003.

**11.1.4 Maintenance other than Replacement of Lamps:**

Maintenance of the street lighting conductor provided on pole to connect the street light shall be carried out by Distribution Licensee.



## **11.2 Tariff for power supply for street lighting purposes to consumers other than the local authorities and industrial estates:**

### **11.2.1 FIXED CHARGES:**

Rs. 30 per kW per month
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### **11.2.2 ENERGY CHARGES:**

For all units consumed during the month	405 Paise per kWh
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### **11.2.3 Renewal and Replacement of Lamps:**

The consumer shall arrange for renewal, maintenance and replacement of lamp, associated Fixture, connecting wire, disconnecting device, switch including time switch etc. at his cost by person authorised by him in this behalf under Rule-3 of the Indian Electricity Rules, 1956 / Rules issued by CEA under the Electricity Act, 2003.

### **11.2.4 Maintenance other than Replacement of Lamps:**

Maintenance of the street lighting conductor provided on pole to connect the street light shall be carried out by Distribution Licensee.

## **12. RATE: TMP**

This tariff is applicable to services of electricity supply for temporary period at the low voltage. A consumer not taking supply on regular basis under a proper agreement shall be deemed to be taking supply for temporary period.

### **12.1 FIXED CHARGE**

Fixed Charge per Installation	Rs. 15 per kW per Day
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## 12.2 ENERGY CHARGE

A flat rate of	465 Paise per Unit
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*Note: Payment of bills is to be made within seven days from the date of issue of the bill. Supply would be disconnected for non-payment of dues on 24 hours' notice.*





## **PART - II**

### **TARIFFS FOR SUPPLY OF ELECTRICITY AT HIGH TENSION (3.3 KV AND ABOVE, 3-PHASE 50 HERTZ), AND EXTRA HIGH TENSION**

The following tariffs are available for supply at high tension for large power services for contract demand not less than 100 kVA

#### **13. RATE: HTP-I**

This tariff will be applicable for supply of electricity to HT consumers contracted for 100 kVA and above for regular power supply and requiring the power supply for the purposes not specified in any other HT Categories.

#### **13.1 DEMAND CHARGES:**

##### **13.1.1 For billing demand up to contract demand**

(a)	For first 500 kVA of billing demand	Rs. 150/- per kVA per month
(b)	For next 500 kVA of billing demand	Rs. 260/- per kVA per month
(c)	For billing demand in excess of 1000 kVA	Rs. 475/- per kVA per month

##### **13.1.2 For Billing Demand in Excess of Contract Demand**

For billing demand in excess over the contract demand	Rs. 555 per kVA per month
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**PLUS**

#### **13.2 ENERGY CHARGES**

<b>For entire consumption during the month</b>		
(a)	Up to 500 kVA of billing demand	400 Paise per Unit
(b)	For billing demand above 500 kVA and up to 2500 kVA	420 Paise per Unit



(c)	For billing demand above 2500 kVA	430 Paise per Unit
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**PLUS**

**13.3 TIME OF USE CHARGES:**

For energy consumption during the two peak periods, viz., 0700 Hrs. to 1100 Hrs. and 1800 Hrs. to 2200 Hrs.		
(a)	For Billing Demand up to 500 kVA	45 Paise per Unit
(b)	For Billing Demand above 500 kVA	85 Paise per Unit

**13.4 BILLING DEMAND:**

The billing demand shall be the highest of the following:

- (a) Actual maximum demand established during the month
- (b) Eighty-five percent of the contract demand
- (c) One hundred kVA

**13.5 MINIMUM BILLS:**

Payment of “demand charges” based on kVA of billing demand.

**13.6 POWER FACTOR ADJUSTMENT CHARGES:**

**13.6.1 Penalty for poor Power Factor:**

- (a) The power factor adjustment charges shall be levied at the rate of 1% on the total amount of electricity bills for the month under the head “Energy Charges”, arrived at using tariff as per para 13.2 of this schedule, for every 1% drop or part thereof in the average power factor during the month below 90% up to 85%.
- (b) In addition to the above clause, for every 1% drop or part thereof in average power factor during the month below 85% at the rate of 2% on the total amount of electricity bill for that month under the head “Energy Charges”, arrived at using tariff as per para 13.2 of this schedule, will be charged.



### **13.6.2 Power Factor Rebate:**

If the power factor of the consumer's installation in any month is above 95%, the consumer will be entitled to a rebate at the rate of 0.5% (half percent) in excess of 95% power factor on the total amount of electricity bill for that month under the head "Energy Charges", arrived at using tariff as per para 13.2 of this schedule, for every 1% rise or part thereof in the average power factor during the month above 95%.

### **13.7 MAXIMUM DEMAND AND ITS MEASUREMENT:**

The maximum demand in kW or kVA, as the case may be, shall mean an average kW / kVA supplied during consecutive 30/15 minutes or if consumer is having parallel operation with the grid and has opted for 3 minutes, period of maximum use where such meter with the features of reading the maximum demand in KW/KVA directly, have been provided.

### **13.8 CONTRACT DEMAND:**

The contract demand shall mean the maximum KW/KVA for the supply, of which the supplier undertakes to provide facilities from time to time.

### **13.9 REBATE FOR SUPPLY AT EHV:**

<b>On Energy charges:</b>		<b>Rebate @</b>
(a)	If supply is availed at 33/66 kV	0.5%
(b)	If supply is availed at 132 kV and above	1.0%

### **13.10 CONCESSION FOR USE OF ELECTRICITY DURING NIGHT HOURS:**

For the consumer eligible for using supply at any time during 24 hours, entire consumption shall be billed at the energy charges specified above. However, the energy consumed during night hours of 10.00 PM to 06.00 AM next morning shall be eligible for concession at the rate of 40 Paise per unit.



### **13.11 SEASONAL CONSUMERS TAKING HT SUPPLY:**

- 13.11.1** The expression, “Seasonal Consumer”, shall mean a consumer who takes and uses power supply for ice factory, ice-candy machines, ginning and pressing factory, oil mill, rice mill, salt industry, sugar factory, khandsari, cold storage plants (including such plants in fishery industry), tapioca industries manufacturing starch, pumping load or irrigation, white coal manufacturers etc.
- 13.11.2** Any consumer, who desires to be billed for the minimum charges on annual basis shall intimate to that effect in writing at least one month before commencement of billing period about the off-season during which energy consumption, if any, shall be mainly for overhauling of the plant and machinery. The off-season period at any time shall be a full calendar month/months. The total period of the off-season so declared and observed shall be not less than three calendar months in a calendar year.
- 13.11.3** The total minimum amount under the head “Demand and Energy Charges” payable by a seasonal consumer satisfying the eligibility criteria under sub-clause 13.11.1 above and complying with provisions stipulated under sub-clause 13.11.2 above shall be Rs. 4550 per annum per kVA of the billing demand.
- 13.11.4** The billing demand shall be the highest of the following:
- (a) The highest of the actual maximum demand registered during the calendar year.
  - (b) Eighty-five percent of the arithmetic average of contract demand during the year.
  - (c) One hundred kVA.
- 13.11.5** Units consumed during the off-season period shall be charged for at the flat rate of 430 Paise per unit.
- 13.11.6** Electricity bills paid during off-season period shall not be taken into account towards the amount payable against the annual minimum bill. The amount paid by the consumer towards the electricity bills for seasonal period only under the heads “Demand Charges” and “Energy Charges” shall be taken into account while determining the amount payable towards the annual minimum bill.



#### **14. RATE HTP-II**

Applicability: This tariff shall be applicable for supply of energy to HT consumers contracting for 100 kVA and above, requiring power supply for Water Works and Sewerage pumping stations run by Local Authorities and GW & SB. GIDC Water Works.

##### **14.1 DEMAND CHARGES:**

###### **14.1.1 For billing demand up to contract demand**

(a)	For first 500 kVA of billing demand	Rs. 115/- per kVA per month
(b)	For next 500 kVA of billing demand	Rs. 225/- per kVA per month
(c)	For billing demand in excess of 1000 kVA	Rs. 290/- per kVA per month

###### **14.1.2 For billing demand in excess of contract demand**

For billing demand in excess of contract demand	Rs. 360 per kVA per month
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**PLUS**

##### **14.2 ENERGY CHARGES:**

For entire consumption during the month		
(b)	Up to 500 kVA of billing demand	435 Paise per Unit
(c)	For billing demand above 500 kVA and up to 2500 kVA	455 Paise per Unit
(d)	For billing demand above 2500 kVA	465 Paise per Unit

**PLUS**

##### **14.3 TIME OF USE CHARGES:**

For energy consumption during the two peak periods, viz., 0700 Hrs. to 1100 Hrs. and 1800 Hrs. to 2200 Hrs.
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(a)	For Billing Demand up to 500 kVA	45 Paise per Unit
(b)	For Billing Demand above 500 kVA	85 Paise per Unit

**14.4** Billing demand

**14.5** Minimum bill

**14.6** Maximum demand and its measurement

**14.7** Contract Demand

**14.8** Rebate for supply at EHV

**14.9** Concession for use of electricity during night hours

Same as per  
HTP-I Tariff

#### **14.10 POWER FACTOR ADJUSTMENT CHARGES:**

##### **14.10.1 Penalty for poor Power Factor:**

- (a) The power factor adjustment charges shall be levied at the rate of 1% on the total amount of electricity bills for the month under the head “Energy Charges”, arrived at using tariff as per para 14.2 of this schedule, for every 1% drop or part thereof in the average power factor during the month below 90% up to 85%.
- (b) In addition to the above clause, for every 1% drop or part thereof in average power factor during the month below 85% at the rate of 2% on the total amount of electricity bill for that month under the head “Energy Charges”, arrived at using tariff as per para 14.2 of this schedule, will be charged.

##### **14.10.2 Power Factor Rebate:**

If the power factor of the consumer’s installation in any month is above 95%, the consumer will be entitled to a rebate at the rate of 0.5% (half percent) in excess of 95% power factor on the total amount of electricity bill for that month under the head “Energy Charges”, arrived at using tariff as per para 14.2 of this schedule, for every 1% rise or part thereof in the average power factor during the month above 95%.



## 15. **RATE: HTP-III**

This tariff shall be applicable to a consumer taking supply of electricity at high voltage, contracting for not less than 100 kVA for temporary period. A consumer not taking supply on regular basis under a proper agreement shall be deemed to be taking supply for temporary period.

### 15.1 **DEMAND CHARGES:**

For billing demand up to contract demand	Rs. 18/- per kVA per day
For billing demand in excess of contract demand	Rs. 20/- per kVA per day

**PLUS**

### 15.2 **ENERGY CHARGES:**

For all units consumed during the month	660 Paise/Unit
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**PLUS**

### 15.3 **TIME OF USE CHARGES:**

Additional charge for energy consumption during two peak periods, viz., 0700 Hrs. to 1100 Hrs. and 1800 Hrs. to 2200 Hrs.	85 Paise per Unit
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### 15.4 **Billing demand**

### 15.5 **Minimum bill**

### 15.6 **Maximum demand and its measurement**

### 15.7 **Contract Demand**

### 15.8 **Rebate for supply at EHV**

Same as per  
HTP-I Tariff

### 15.9 **POWER FACTOR ADJUSTMENT CHARGES:**

#### 15.9.1 **Penalty for poor Power Factor:**

- (a) The power factor adjustment charges shall be levied at the rate of 1% on the total amount of electricity bills for the month under the head "Energy Charges", arrived at using tariff as



per para 15.2 of this schedule, for every 1% drop or part thereof in the average power factor during the month below 90% up to 85%.

- (b) In addition to the above clause, for every 1% drop or part thereof in average power factor during the month below 85% at the rate of 2% on the total amount of electricity bill for that month under the head “Energy Charges”, arrived at using tariff as per para 15.2 of this schedule, will be charged.

#### **15.9.2 Power Factor Rebate:**

If the power factor of the consumer’s installation in any month is above 95%, the consumer will be entitled to a rebate at the rate of 0.5% (half percent) in excess of 95% power factor on the total amount of electricity bill for that month under the head “Energy Charges”, arrived at using tariff as per para 15.2 of this schedule, for every 1% rise or part thereof in the average power factor during the month above 95%.

### **16 RATE: HTP-IV**

This tariff shall be applicable for supply of electricity to HT consumers opting to use electricity exclusively during night hours from 10.00 PM to 06.00 AM next day and contracted for regular power supply of 100 kVA and above.

#### **16.1 DEMAND CHARGES:**

1/3 <sup>rd</sup> of the Fixed Charges specified in Rate HTP-I above.
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**PLUS**

#### **16.2 ENERGY CHARGES:**

For all units consumed during the month	225 Paise per Unit
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<b>16.3 Billing demand</b>	}	Same as per HTP-I Tariff
<b>16.4 Minimum bill</b>		
<b>16.5 Maximum demand and its measurement</b>		
<b>16.6 Contract Demand</b>		
<b>16.7 Rebate for supply at EHV</b>		

## **16.8 POWER FACTOR ADJUSTMENT CHARGES:**

### **16.8.1 Penalty for poor Power Factor:**

- (a) The power factor adjustment charges shall be levied at the rate of 1% on the total amount of electricity bills for the month under the head “Energy Charges”, arrived at using tariff as per para 16.2 of this schedule, for every 1% drop or part thereof in the average power factor during the month below 90% up to 85%.
- (b) In addition to the above clause, for every 1% drop or part thereof in average power factor during the month below 85% at the rate of 2% on the total amount of electricity bill for that month under the head “Energy Charges”, arrived at using tariff as per para 16.2 of this schedule, will be charged.

### **16.8.2 Power Factor Rebate:**

If the power factor of the consumer’s installation in any month is above 95%, the consumer will be entitled to a rebate at the rate of 0.5% (half percent) in excess of 95% power factor on the total amount of electricity bill for that month under the head “Energy Charges”, arrived at using tariff as per para 16.2 of this schedule, for every 1% rise or part thereof in the average power factor during the month above 95%.

### **NOTE:**

- 1. 15% of the contracted demand can be availed beyond the night hours prescribed as per para 16 above.*



2. 10% of total units consumed during the billing period can be availed beyond the night hours prescribed as per para 16 above.
3. In case the consumer failed to observe condition no. 1 above during any of the billing month, then demand charge during the relevant billing month shall be billed as per HTP-I category demand charge rates given in para 13.1 of this schedule.
4. In case the consumer failed to observe condition no. 2 above during any of the billing month, then entire energy consumption during the relevant billing month shall be billed as per HTP-I category energy charge rates given in para 13.2 of this schedule.
5. In case the consumer failed to observe above condition no. 1 and 2 both during any of the billing month, then demand charge and entire energy consumption during the relevant billing month shall be billed as per HTP-I category demand charge and energy charge rates given in para 13.1 and 13.2 respectively, of this schedule.
6. This tariff shall be applicable if the consumer so opts to be charged in place of HTP-I tariff by using electricity exclusively during night hours as above.
7. The option can be exercised to switch over from HTP-I tariff to HTP-IV tariff and vice versa twice in a calendar year by giving not less than one month's notice in writing.

## **17 RATE: HTP- V**

### **HT - Agricultural (for HT Lift Irrigation scheme only)**

This tariff shall be applicable for supply of electricity to High Tension Agricultural consumers contracting for 100 kVA and above, requiring power supply for lifting water from surface water sources such as canal, river and dam, and supplying water directly to the fields of farmers for agricultural irrigation only.

#### **17.1 DEMAND CHARGES:**

Demand Charges Rs. 50 per kVA per month
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**PLUS**

**17.2 ENERGY CHARGES:**

For all units consumed during the month	180 Paise per Unit
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**17.3 Billing demand**

**17.4 Minimum bill**

**17.5 Maximum demand and its measurement**

**17.6 Contract Demand**

**17.7 Rebate for supply at EHV**

Same as per  
HTP-I Tariff

**17.8 POWER FACTOR ADJUSTMENT CHARGES:**

**17.8.1 Penalty for poor Power Factor:**

- (a) The power factor adjustment charges shall be levied at the rate of 1% on the total amount of electricity bills for the month under the head “Energy Charges”, arrived at using tariff as per para 17.2 of this schedule, for every 1% drop or part thereof in the average power factor during the month below 90% up to 85%.
- (b) In addition to the above clause, for every 1% drop or part thereof in average power factor during the month below 85% at the rate of 2% on the total amount of electricity bill for that month under the head “Energy Charges”, arrived at using tariff as per para 17.2 of this schedule, will be charged.

**17.8.2 Power Factor Rebate:**

If the power factor of the consumer’s installation in any month is above 95%, the consumer will be entitled to a rebate at the rate of 0.5% (half percent) in excess of 95% power factor on the total amount of electricity bill for that month under the head “Energy Charges”, arrived at using tariff as per para 17.2 of this schedule, for every 1% rise or part thereof in the average power factor during the month above 95%.



## **18 RATE: RAILWAY TRACTION**

This tariff is applicable for power supply to Railway Traction at 132 kV/66 kV.

### **18.1 DEMAND CHARGES:**

(a)	For billing demand up to the contract demand	Rs. 180 per kVA per month
(b)	For billing demand in excess of contract demand	Rs. 425 per kVA per month

NOTE: In case of the load transfer for traction supply due to non-availability of power supply at preceding or succeeding point of supply or maintenance at Discom's level, excess demand over the contract demand shall be charged at normal rate at appropriate point of supply.

Normal Demand Charges will also apply in case of bunching of trains. However, Discoms shall charge excess demand charges while raising the bills and Railways have to give convincing details and documentary proof of bunching of trains if they want to be charged at the normal demand charges. If satisfactory proof of bunching of trains is provided, Discom shall consider that occasion for normal demand charges, otherwise excess demand charges will be applicable specified as above at 18.1 (b).

**PLUS**

### **18.2 ENERGY CHARGES:**

For all units consumed during the month	500 Paise per Unit
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<b>18.3 Billing demand</b>	}	Same as per HTP-I Tariff
<b>18.4 Minimum bill</b>		
<b>18.5 Maximum demand and its measurement</b>		
<b>18.6 Contract Demand</b>		
<b>18.7 Rebate for supply at EHV</b>		



## **18.8 POWER FACTOR ADJUSTMENT CHARGES:**

### **18.8.1 Penalty for poor Power Factor:**

- (a) The power factor adjustment charges shall be levied at the rate of 1% on the total amount of electricity bills for the month under the head “Energy Charges”, arrived at using tariff as per para 18.2 of this schedule, for every 1% drop or part thereof in the average power factor during the month below 90% up to 85%.
- (b) In addition to the above clause, for every 1% drop or part thereof in average power factor during the month below 85% at the rate of 2% on the total amount of electricity bill for that month under the head “Energy Charges”, arrived at using tariff as per para 18.2 of this schedule, will be charged.

### **18.8.2 Power Factor Rebate:**

If the power factor of the consumer's installation in any month is above 95%, the consumer will be entitled to a rebate at the rate of 0.5% (half percent) in excess of 95% power factor on the total amount of electricity bill for that month under the head “Energy Charges”, arrived at using tariff as per para 18.2 of this schedule, for every 1% rise or part thereof in the average power factor during the month above 95%.



## Annexure I: RPO

Particulars	FY 2016-17				FY 2017-18				FY 2018-19				FY 2019-20				FY 2020-21			
	Solar	Wind	Others	Total	Solar	Wind	Others	Total	Solar	Wind	Others	Total	Solar	Wind	Others	Total	Solar	Wind	Others	Total
Total available	1368	4280	46	5694	1436	6359	410	8205	2579	6748	430	9757	3828	7160	450	11438	5200	7611	709	13520
Total Requirement	82048	82048	82048	82048	85962	85962	85962	85962	90061	90061	90061	90061	94545	94545	94545	94545	99258	99258	99258	99258
RPO Obligation fulfilled	1.67%	5.22%	0.06%	6.94%	1.67%	7.40%	0.48%	9.54%	2.86%	7.49%	0.48%	10.83%	4.05%	7.57%	0.48%	12.10%	5.24%	7.67%	0.71%	13.62%
RPO Target	1.75%	7.75%	0.50%	10.00%	3.00%	7.85%	0.50%	11.35%	4.25%	7.95%	0.50%	12.70%	5.50%	8.05%	0.75%	14.30%	6.75%	8.15%	0.75%	15.65%
RPO Target	1436	6359	410	8205	2579	6748	430	9757	3828	7160	450	11438	5200	7611	709	13520	6700	8089	744	15534
Unmet Target	67	2079	365	2511	1143	389	20	1552	1249	412	20	1681	1372	451	259	2082	1500	479	35	2014
<b>Total RPO Target to be met (MUs)</b>	<b>67</b>	<b>2079</b>	<b>365</b>	<b>2511</b>	<b>1143</b>	<b>389</b>	<b>20</b>	<b>1552</b>	<b>1249</b>	<b>412</b>	<b>20</b>	<b>1681</b>	<b>1372</b>	<b>451</b>	<b>259</b>	<b>2082</b>	<b>1500</b>	<b>479</b>	<b>35</b>	<b>2014</b>
<b>Total RPO Target to be met (MW)</b>	<b>41</b>	<b>969</b>	<b>52</b>	<b>1061</b>	<b>687</b>	<b>181</b>	<b>3</b>	<b>871</b>	<b>750</b>	<b>192</b>	<b>3</b>	<b>945</b>	<b>825</b>	<b>210</b>	<b>37</b>	<b>1072</b>	<b>901</b>	<b>223</b>	<b>5</b>	<b>1129</b>

