# 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 2020-21

and Determination of Tariff for FY 2017-18

**For**

## MPSEZ Utilities Private Ltd.
## (MUPL)

**Case No. 1631 of 2016**

**31st March, 2017**

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# GUJARAT ELECTRICITY REGULATORY COMMISSION (GERC)

## GANDHINAGAR

## Tariff Order

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# Abbreviations

| | |
|---|---|
| A&G | Administration and General Expenses |
| AMR | Automated Meter Reader |
| APL | Adani Power Ltd. |
| APSEZL | Adani Ports and Special Economic Zone Ltd. |
| APTEL | Appellate Tribunal for Electricity |
| ARR | Aggregate Revenue Requirement |
| CAPEX | Capital Expenditure |
| CEA | Central Electricity Authority |
| CERC | Central Electricity Regulatory Commission |
| CETP | Common Effluent Treatment Plan |
| Control period | The period from FY 2016-17 to FY 2020-21 |
| CWIP | Capital Works in Progress |
| DISCOM | Distribution Company |
| EA | Electricity Act, 2003 |
| EHV | Extra High Voltage |
| FPPPA | Fuel and Power Purchase Price Adjustment |
| FY | Financial Year |
| GERC | Gujarat Electricity Regulatory Commission |
| GETCO | Gujarat Energy Transmission Corporation Limited |
| GFA | Gross Fixed Assets |
| GoG | Government of Gujarat |
| GUVNL | Gujarat Urja Vikas Nigam Limited |
| HT | High Tension |
| HTMD | High Tension Maximum Demand |
| kV | Kilo Volt |
| kVA | Kilo Volt Ampere |
| kVAh | Kilo Volt Ampere Hour |
| kWh | Kilo Watt Hour |
| LT | Low Tension Power |
| LTPPA | Long Term Power Purchase Agreement |
| MCLR | Marginal Cost of Lending Rate |
| MPSEZL | Mundra Port and Special Economic Zone Limited |
| MTR | Mid-term Review |
| MUs | Million Units (Million kWh) |
| MW | Mega Watt |
| MSW | Municipal Solid Waste |
| MUPL | MPSEZ Utilities Private Limited |
| MYT | Multi-Year Tariff |
| O&M | Operations and Maintenance |

| | |
|---|---|
| PF | Power Factor |
| PGCIL | Power Grid Corporation of India Limited |
| PGVCL | Paschim Gujarat Vij Company Limited |
| PPA | Power Purchase Agreement |
| R&M | Repairs and Maintenance |
| REC | Renewable Energy Certificate |
| RLDC | Regional Load Despatch Centre |
| RPO | Renewable Purchase Obligation |
| SBAR | State Bank Advance Rate |
| SBBR | State Bank Base Rate |
| SBI | State Bank of India |
| SEZ | Special Economic Zone |
| SLC | Service Line Contribution |
| SLDC | State Load Despatch Centre |
| STU | State Transmission Utility |
| WRLDC | Western Regional Load Despatch Centre |

# Before the Gujarat Electricity Regulatory Commission at Gandhinagar

## Case No. 1631 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

MPSEZ Utilities Private Limited (hereinafter referred to as "MUPL" or the "Petitioner"), a distribution Licensee, has on 14th December, 2016 filed a petition under Section 62 of the Electricity Act, 2003, read with Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2011, for the Truing up of FY 2015-16 and Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2016 for determination of final ARR for FY 2016-17, determination of ARR for the Control Period i.e. FY 2016-17 to FY 2020-21 and determination of tariff for FY 2017-18.

After technical validation of the petition, it was registered on 17th December, 2016 and as provided under Regulation 29.1 of GERC MYT Regulations, 2016, the Commission has proceeded with this tariff order.

## 1.2 MPSEZ Utilities Private Limited (MUPL)

The Petitioner, MPSEZ Utilities Private Ltd (MUPL) is a company incorporated in 2008 under the Companies Act, 1956. Another company, Adani Ports and Special Economic Zone Ltd. (APSEZL), formerly known as Mundra Port and Special Economic Zone Limited (MPSEZL), is developing a multi-product SEZ at Mundra. The area of MPSEZL is about 8,481 hectares.

MUPL, created to provide infrastructure facilities in the Special Economic Zone, entered into a co-developer agreement with MPSEZL. The Ministry of Commerce and Industry, Government of India has approved MUPL as a co-developer to create infrastructure facilities in MPSEZL.

MUPL, obtained the status of distribution licensee vide Government of India notification dated 03/03/2010. This was also endorsed by the Gujarat Electricity Regulatory Commission (GERC) vide order No. GERC/Legal 2010/0609 dated 06/04/2010 allowing for distribution of electricity in Mundra SEZ area, Kutch. As such, MUPL is a deemed licensee for distribution of electricity in Mundra SEZ area.

## 1.3 Commission's order for the Second Control Period

Gujarat Electricity Regulatory Commission issued the GERC (Multi-Year Tariff) Regulations, 2011 on 22nd March, 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 1st April, 2011 and onwards."*

MUPL filed its Petition under the Multi-Year Tariff framework for the FY 2011-12 to FY 2015-16, on 25th January, 2011, in accordance with the Gujarat Electricity Regulatory Commission (Multi-Year Tariff Framework) 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 submissions made by MUPL, the objections by various stakeholders, response of MUPL, issues raised during the public hearing and all other relevant material, issued the Multi-Year Tariff Order on 18th August, 2011 for the control period comprising FY 2011-12, FY 2012-13, FY 2013-14, FY 2014-15 and FY 2015-16, based on the GERC (MYT) Regulations, 2011.

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

MUPL 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 and the same was registered by the Office on 13th September, 2013.

The Commission in exercise of the powers vested in it under Section 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 MUPL, the objections by various stakeholders, response of MUPL, 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 order for MUPL issued on 29th May, 2014.

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

The Commission in its order dated 2nd 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 be governed as per the new MYT

Regulations. It was 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. The petition was registered on 1st January 2016. The Commission vide Order dated 31st March, 2016 approved the provisional ARR and the tariff for FY 2016-17 was determined accordingly.

## 1.6 Background for the present petition

Gujarat Electricity Regulatory Commission notified the GERC (Multi-Year Tariff) Regulations, 2016 on 29th March, 2016 which shall be applicable for determination of tariff in all cases covered under the Regulations from 1st April, 2016 onwards. Regulation 17.2 provides for submission of detailed Multi-Year Tariff application comprising truing up for FY 2015-16 to be carried out under GERC (Multi-Year Tariff) Regulations, 2011, Multi-Year Aggregate Revenue Requirement for the entire Control Period with year-wise details, Revenue from the sale of power at existing tariffs and charges and projected revenue gap or revenue surplus, for the second year of the Control Period under these Regulations, viz., FY 2017-18 and application for determination of final ARR for FY 2016-17 and determination of tariff for FY 2017-18.

## 1.7 Registration of the present petition and the public hearing process

The Petitioner submitted the present Petition for Truing–up of FY 2015-16, determination of final ARR for FY 2016-17, determination of ARR for the 3rd Control Period from FY 2016-17 to FY 2020-21 and determination of tariff for FY 2017-18 on 14th December, 2016. The Office registered the above Petition (Case No. 1631 of 2016) on 17th December, 2016.

In accordance with Section 64 of the Electricity Act, 2003, the Commission directed MUPL to publish its application in the abridged form to ensure public participation.

The Public Notice, inviting objections / suggestions from its stakeholders on the ARR petition filed by it, was published in the following newspapers:

**Table 1-1: List of newspapers**

| Sl. No. | Particulars | Language | Date of Publication |
|---|---|---|---|
| 1 | The Indian Express (Ahmedabad) | English | 22.12.2016 |
| 2 | Kutch Mitra (Bhuj) | Gujarati | 22.12.2016 |
| 3 | Divya Bhaskar (Bhuj) | Gujarati | 22.12.2016 |

The petitioner also placed the public notice and the petition on its website (www.adaniports.com), for inviting objections and suggestions. The interested parties/stakeholders were asked to file their objections / suggestions on the petition on or before 21st January, 2017.

The Commission received objections / suggestions from consumers / consumer organizations as shown in Table below. The Commission examined the objections / suggestions received from the stakeholders and fixed the date for public hearing for the petition on 8th February, 2017 at the Commission's Office, 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 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 14th February, 2017. The public hearing was conducted in the Commission's Office at Gandhinagar as scheduled on the above dates.

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:

**Table 1-2: Status of stakeholders**

| Sr. No. | Name of Stakeholders | Written Submission | Oral Submission | Present on 08.02.2017 | Present on 14.02.2017 |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 1. | Laghu Udyog Bharti - Gujarat | Yes | Yes | No | Yes |
| 2. | Utility Users' Welfare Association (UUWA) | Yes | Yes | Yes | No |

A short note on the main issues raised by the objectors in the submissions in respect to the petition, along with the response of MUPL and the Commission's views on the response, are given in Chapter 3.

## 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 18th August, 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 May, 2014.

The Commission, vide suo-motu order dated 02.12.2015 in Petition No. 1534/2015 decided to consider approved ARR of FY 2015-16 in Mid-Term Review order dated 29.04.2014 as provisional ARR for FY 2016-17 for determination of tariff for FY 2016-17 in view of delay in finalization of final 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 new GERC (Multi-Year Tariff) Regulations, 2016.

The GERC (Multi-year Tariff) Regulations, 2016 provides 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.

MUPL 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 MTR 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 the Order

This order is divided into **nine** chapters as under:

1. The **First Chapter** provides the background of the Petitioner, the Petition and details of the public hearing process and the approach adopted for this order.
2. The **Second Chapter** outlines the summary of MUPL’s petition.
3. The **Third Chapter** provides a brief account of the public hearing process, including the objections raised by various stakeholders, MUPL’s response and the Commission’s views on the response.
4. The **Fourth Chapter** deals with the ‘Truing up’ for FY 2015-16.

5. The **Fifth Chapter** deals with the Aggregate Revenue Requirement (ARR) for FY 2016-17 to FY 2020-21.
6. The **Sixth Chapter** deals with the determination of Tariff for FY 2017-18.
7. The **Seventh Chapter** deals with the compliance of directives.
8. The **Eight Chapter** deals with FPPPA.
9. The **Ninth Chapter** deals with determination of the wheeling charges and cross-subsidy surcharge.
10. The **Tenth Chapter** deals with the tariff philosophy and tariff proposal

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

## 2.1 Introduction

This chapter deals with highlights of the petition as submitted by MUPL for truing up of FY 2015-16, determination of final ARR for FY 2016-17, determination of ARR for third Control Period i.e. FY 2016-17 to FY 2020-21 and determination of tariff for FY 2017-18.

## 2.2 True up for FY 2015-16

MPSEZ Utilities Private Limited (MUPL) submitted the Petition on 14th December, 2016 seeking approval of truing up for ARR of FY 2015-16. MUPL has worked out its Aggregate Revenue Requirement (ARR) for FY 2015-16 as a part of the True Up for FY 2015-16. MUPL has presented the actual cost components based on audited annual accounts for FY 2015-16.

The details of expenses under various components of ARR for FY 2015-16 submitted by MUPL in comparison to those approved in the MTR order for FY 2015-16 are given in the table below. Further, the item-wise gain/ loss computations as submitted by MUPL are also shown:

**Table 2-1: True-up proposed by MUPL for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Over (+) / Under (-) Recovery | Gain/ (Loss) due to Controllable factor | Gain/ (Loss) due to Uncontrollable factor |
|---|---|---|---|---|---|
| Power purchase cost | 141.71 | 102.33 | 39.38 | 0.00 | 39.38 |
| O&M expenses | 7.50 | 8.50 | (1.00) | (1.00) | 0.00 |
| Depreciation | 5.77 | 3.60 | 2.17 | 0.00 | 2.17 |
| Interest and finance charges | 6.48 | 4.01 | 2.47 | 0.00 | 2.47 |

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Over (+) / Under (-) Recovery | Gain/ (Loss) due to Controllable factor | Gain/ (Loss) due to Uncontrollable factor |
|---|---|---|---|---|---|
| Interest on security deposit | 4.48 | 0.24 | 4.24 | 0.00 | 4.24 |
| Interest on working capital | 0.00 | 1.20 | (1.20) | 0.00 | (1.20) |
| Provision for Bad Debts | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Contingency reserve | 0.63 | 0.00 | 0.63 | 0.00 | 0.63 |
| Income Tax | 0.13 | 0.00 | 0.13 | 0.00 | 0.13 |
| Return on Equity | 4.99 | 2.93 | 2.06 | 0.00 | 2.06 |
| Less: Non-tariff income | 0.10 | 0.56 | (0.46) | 0.00 | (0.46) |
| **Annual revenue requirment** | **171.59** | **122.25** | **49.34** | **(1.00)** | **50.34** |

## 2.3 Revenue gap / (surplus) upto FY 2015-16

The table below summarizes the proposed ARR claimed by MUPL for truing up.

**Table 2-2: True up for FY 2015-16 as submitted by MUPL**

**(Rs. Crore)**

| Particulars | Approved in truing up for 2015-16 |
|---|---|
| ARR approved in MTR order for 2015-16 (a) | 171.59 |
| Add: Loss on account of controllable factor to be passed to consumers (1/3rd) (b) | 0.33 |
| Less: Gain on account of uncontrollable factor (c) | 50.34 |
| **ARR trued up of 2015-16 [(d)=a+b-c]** | **121.58** |

MUPL has incorporated carrying cost for FY 2015-16 on eligible consolidated revenue surplus of Rs. 2.34 Crore of FY 2014-15 as per the interest rate @ 10.50% considered for working out interest and finance charge for FY 2014-15 in line with the methodology adopted by the Commission in tariff order dated 31.03.2016. The table below summarizes the trued up ARR, revenue from sale of power, resultant gap / (surplus), carrying cost and consolidated gap / (surplus) for FY 2015-16.

**Table 2-3: Derivation of consolidated revenue gap / (surplus) submitted by MUPL for FY 2015-16**

**(Rs. Crore)**

| Particulars | Actual submitted for 2015-16 |
|---|---|
| 1. Trued up ARR for FY 2015-16 | 121.58 |
| 2. Revenue from Sale of Power | 116.02 |
| **3. Revenue Gap / (Surplus) (2-1)** | **5.56** |
| 4. Add: Carrying Cost @ 10.50% on revenue surplus of 2014-15 for 2015-16 | (0.25) |
| **5. Consolidated revenue gap up to 2015-16 (3 + 4)** | **5.32** |

## 2.4 ARR for the MYT control period FY 2016-17 to FY 2020-21

MUPL has also sought approval for final Aggregate Revenue Requirement for FY 2016-17, Aggregate Revenue Requirement for the third Control Period i.e. FY 2016-17 to FY 2020-21 and determination of tariff for FY 2017-18 in its Petition filed on 14th December, 2016.

The Multi-Year Aggregate Revenue Requirement of MUPL for the third control period FY 2016-17 to FY 2020-21 is given in the Table below:

**Table 2-4: ARR projected by MUPL for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Power purchase cost | 116.36 | 178.31 | 254.26 | 291.40 | 307.25 |
| O&M expenses | 9.07 | 9.59 | 10.14 | 10.72 | 11.33 |
| Depreciation | 3.25 | 3.22 | 3.48 | 4.36 | 5.33 |
| Interest on LT loans and Finance charges | 3.62 | 3.37 | 3.19 | 3.90 | 4.71 |
| Interest on security deposits | 0.19 | 0.16 | 0.19 | 0.20 | 0.23 |
| Interest on Working capital | 1.23 | 1.93 | 2.69 | 3.11 | 3.25 |
| Return on Equity | 2.93 | 3.00 | 3.11 | 3.71 | 4.41 |

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Contribution to Contingency Reserves | 0.44 | 0.47 | 0.52 | 0.74 | 0.90 |
| Income tax | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Less: Non-tariff income | 0.44 | 0.09 | 0.10 | 0.12 | 0.14 |
| **ARR** | **136.64** | **199.96** | **277.47** | **318.03** | **337.28** |

## 2.5 Revenue Gap/ (Surplus) for FY 2017-18

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

**Table 2-5: Estimated revenue gap / (surplus) of MUPL for FY 2017-18**

**(Rs. Crore)**

| Particulars | 2017-18 |
|---|---|
| ARR for 2017-18 | 199.96 |
| Add: Consolidated Revenue gap up to 2015-16 | 5.32 |
| Add: Carrying cost on revenue surplus of 2014-15 for 2016-17 | (0.23) |
| Add: Carrying cost on consolidated gap of 2015-16 for 2016-17 & 2017-18 | 1.24 |
| Revenue at existing tariff for 2017-18 | 200.42 |
| **Revenue Gap/ (Surplus) for 2017-18** | **5.86** |

## 2.6 Request of MUPL

1. Admit the Petition for truing up of Aggregate Revenue Requirement for FY 2015-16 and tariff determination for FY 2017-18.
2. Approve the Aggregate Revenue Requirement for the entire 3rd Control Period (FY 2016-17 to FY 2020-21).
3. Approve revenue gap of FY 2015-16 and its carrying cost.
4. Approve sharing of gains/losses, proposed by the Petitioner for FY 2015-16
5. Approve Wheeling ARR and corresponding charges for wheeling of power with effect from 01.04.2017.

6. Approve cross subsidy surcharge filed by the Petitioner.
7. Approve Tariff schedule as proposed by the Petitioner.
8. Allow additions / alterations / changes modifications to the application at a future date
9. Allow any other relief, order or direction, which the Commission deems fit to be issued
10. Condone any inadvertent omissions/errors/shortcomings and permit the Petitioner to add/change/modify/alter this filing and make further submissions as may be required at a future date

# 3. Brief outline of objections raised, response from MUPL and Commission's view

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

In response to the Public Notice inviting objections/ suggestions from stakeholders on the petition filed by MUPL for True up of FY 2015-16, multiyear Aggregate Revenue Requirement (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, **two** Stakeholders filed their suggestions/ objections in writing. Both of the Stakeholders participated in the public hearings.

The Commission has considered the objections / suggestions, the issues presented before the commission and the response of MUPL on the same.

The submissions made by the objectors, response of the petitioner and the views of the Commission are dealt with in the following section.

## 3.2 Issue wise submissions and replies

Each of the objections submitted, MUPL's response and Commission's view has been discussed below in terms of key issues identified.

**1. Maintainability of the petition**

**Objection:**

The petition is not maintainable as it is in violation of the various provisions of the Electricity Act, 2003 and Regulations made there under.

**Response of MUPL:**

The aforesaid petition filed by the Petitioner is as per the provisions of the Electricity Act, 2003 and in line with the principles laid down by the Commission in GERC (MYT) Regulations, 2011 and 2016.

**Commission's view:**

The petition has been filed as per the GERC MYT Regulations, 2011 and GERC MYT Regulations, 2016.

### 2. Tariff petition is in violation of the Electricity Act, 2003

**Objection:**

Section 61 of the Electricity Act, 2003 contemplates to create competition amongst the suppliers of electricity to bring down the cost of supply by promoting the element of efficiency in generation, distribution and transmission business. The proposed tariff petition is in violation of the preamble of the Act because the first licensee is PGVCL and is mandated to supply the power in this designated SEZ supply area.

**Response of MUPL:**

The Petitioner is a power distribution license in Mundra SEZ as per Section 14 (b) of the Electricity Act, 2003 and Distribution License No.6 of 2016 issued by the Commission. The Petitioner is supplying power to its consumers in accordance with rules and regulations of the GERC. The Petitioner has filed this petition as per GERC (Multi Year Tariff) Regulations, 2011 and 2016 along with other guidelines and directions issued by the GERC from time to time and under PART VII (Section 61 to 64) of the Electricity Act, 2003, therefore, there is no violation of the Electricity Act 2003.

**Commission's view:**

The Commission has scrutinized the petition as per GERC MYT Regulations.

### 3. Accounting statement is not as per MYT regulations

**Objection:**

Accounting statement is not as per MYT Regulations and hence not acceptable. It is not audited by a C.A.

**Response of MUPL:**

The Petitioner has submitted the accounting statement of the Power Distribution Business for FY 2015-16, which is as per GERC (MYT) Regulations, 2011. The

Petitioner would like to highlight that this accounting statement has been audited by the independent auditor appointed as per company's law. The auditor's certificate has been attached with said accounting statements.

**Commission's view:**

Necessary prudence checks have been done by the Commission.

### 4. Submission of business plan

**Objection:**

The MUPL has not submitted the business plan as directed and it should be made available in the public domain. The Commission is requested to direct the petitioner to make it available to the consumers for their comments and further suggestions.

**Response of MUPL:**

The Petitioner had submitted the Business Plan for 2$^{nd}$ control period to the Commission in view of principles laid down in Para 19 of GERC (MYT) Regulations, 2011 and same was reviewed and modified during the mid-term review exercise. However, the principle of business plan is not there in GERC (MYT) Regulations, 2016.

**Commission's view:**

The Commission noted the objection submitted by the stakeholder and response provided by MUPL.

### 5. Energy sales are submitted without adequate evidence

**Objection:**

The actual energy sales is 184.76 MUs against approved sales of 313 MUs in the MTR order. The estimate is wrong by 35% which has happened because MUPL has not given evidence or support for the projections of the category wise sales in the petition. MUPL should provide the details of energy sales category wise so that real truing up can be justified by the Commission.

**Response of MUPL:**

MUPL has submitted that it was not possible for the Petitioner to envisage demand and sales of the distribution area during the MTR exercise due to lack of historical data. Due to changes in SEZ policy and economic slowdown, the demand and sales have not grown as envisaged during the MTR exercise.

**Commission's view:**

The response of MUPL is self-explanatory.

### 6. High distribution losses

**Objection:**

The actual distribution losses of MUPL for FY 2015-16 is 4.17% against approved distribution losses of 4.5%. The loss level is too high considering the area of distribution and the fact that TPL-D Surat has a loss level of 3.89%.

**Response of MUPL:**

The Petitioner has created basic EHV Network for power distribution in certain area of SEZ considering N-1 redundancy at sub-station level during 2$^{nd}$ MYT control period. However, the development of SEZ during 2$^{nd}$ MYT control period was not as was envisaged and therefore, utilization of network during the control period was sub-optimal. This has contributed to the technical losses which results in distribution losses of 4.17% during FY 2015-16. This will be reduced with optimal utilization of installed transformation capacity to transform power at various secondary voltage levels from primary voltage levels.

**Commission's view:**

The Commission notes the submission made by MUPL in this regard. The Commission considers distribution losses as an important lever for efficiency improvement in distribution business. In this order, for the MYT period, despite an increasing trend during the previous control period, the Commission has approved a loss level which is lower than the actual loss for FY 2015-16. The Commission directs the petitioner to take necessary steps to reduce the distribution losses levels.

### 7. High power purchase cost

**Objection:**

MUPL's average power purchase cost for FY 2015-16 works out to Rs. 5.31/ kWh which is very high. Adani Power Ltd. (APL), from where MUPL is sourcing majority of its power, is selling power to GUVNL at Rs. 2.35/ kWh. Further, the previous licensee in MUPL's license area i.e. PGVCL is procuring power at the rate of Rs. 3.53/ kWh. Considering these facts, it is not justified that MUPL is procuring power at such high price that too from its own associated company. The Commission is requested not to allow the high power purchase cost to be passed on to consumers.

**Response of MUPL:**

The Petitioner has purchased power through competitive bidding route only and accordingly, executed medium term PPA with Adani Power Limited, which has been approved by the Commission. The increase of actual per unit energy cost for FY 2015-16 compared to what it has been approved during mid-term review, is attributable to lower consumer base and power demand due to slow development of SEZ on account of change in SEZ policy, lower load factor due to economic slowdown and RPO compliance of FY 2012-13, which are beyond the control of the distribution license and therefore, could not be mitigated. The Commission has classified power purchase cost as uncontrollable as per para 23.1 (c) of GERC (MYT) Regulations, 2011, which is applicable here for the true up of FY 2015-16.

**Commission's view:**

The Commission noted the objection of the stakeholder and the submissions made by MUPL in this regard.

### 8. Mismatch between petition and audited accounts figures

**Objection:**

There is significant mismatch in the figures pertaining to power purchase and sale of power (both energy units and cost/ revenue) between the petition and audited accounts.

**Response of MUPL:**

The Petitioner would like to submit here that the Petitioner has put up his best effort to reduce power purchase cost by way of sale of surplus power and thereby, sold 8.37 MUs and generated revenue of Rs. 3.30 Crore. The revenue generated from sale of surplus power has been booked under the income in the Financial Accounts. However, the Petitioner has excluded sale of surplus power and revenue from total power purchase quantum and cost to work out power purchase quantum and cost for power distribution in license area of Petitioner.

The reconciliation of data between financial accounts and in true up petition, related to power purchase and sale in view of power distribution business in license area, based on above clarifications is as under:

Power purchase

**Table 3-1: Power purchase details submitted by MUPL in response to stakeholder's objection**

| Particular | Actual for 2015-16 | |
|---|---|---|
| | Energy (MUs) | Revenue (Rs. in Crore) |
| Power Purchase as per Financial Account | 201.17 | 107.89 |
| Less: Sale of surplus power | 8.37 | 3.30 |
| Less: RPO liabilities of previous years | 0.00 | 2.25 |
| **Total Purchase considered in Petition** | **192.79** | **102.33** |

Power sale

**Table 3-2: Power sale details submitted by MUPL in response to stakeholder's objection**

| Particular | Actual for 2015-16 | |
|---|---|---|
| | Energy (MUs) | Revenue (Rs. in Crore) |
| Power Sale as per Financial Account | 193.13 | 119.32 |
| Less: Sale of surplus power | 8.37 | 3.30 |
| **Total sale to retail consumers considered in Petition** | **184.76** | **116.02** |

### Commission's view:

The response of MUPL is self-explanatory.

## 9. Realistic MYT proposal and ARR for FY 2017-18

**Objection:**

In place of submitting lower income and higher expense proposals, the MYT proposals are required to be submitted on realistic basis.

**Response of MUPL:**

The Petitioner would like to submit that ARR proposal submitted by the Petitioner is in line with the principles laid down by the Commission in GERC (MYT) Regulations, 2016.

**Commission's view:**

The response of MUPL is noted.

## 10. Promotion of tariff based competition in licensee area

**Objection:**

Majority of consumption in MUPL's area is by HT consumers with consumption more than 1 MW who are free to purchase power from entity other than MUPL through open access. In case of any such migration, the whole distribution cost will be apportioned on remaining consumers. As tariff of MUPL is high as compared to PGVCL, it is suggested that a different tariff for PGVCL for this particular area should be determined which will be quite lower than MUPL. Alternatively, PGVCL should be directed to appoint any franchisee to promote competition.

**Response of MUPL:**

The Petitioner would like to submit here that 99% of the total HT category consumers have contract demand above 100 kVA. The consumers having demand more than 1 MW are free to avail power through open access as per GERC Open Access regulation from any other source.

**Commission's view:**

The Commission noted the suggestion made by the stakeholder and the submission made by MUPL in this regard.

### 11. Demand based tariff for industrial and commercial consumers

**Objection:**

With the change of time it is suggested to introduce Demand based Tariff to all industrial consumers and commercial consumers.

**Response of MUPL:**

The Petitioner would here like to inform that the Demand Based Tariff for all industrial and commercial consumers having contracted demand more than 6 kW is already in place since start of its operation i.e. $28^{th}$ August. 2010.

**Commission's view:**

The Commission notes response of MUPL.

# 4. Truing up for FY 2015-16

## 4.1 Introduction

This chapter deals with the Truing up of FY 2015-16 of MUPL.

While doing 'Truing up' of various components of ARR for FY 2015-16, the actuals for FY 2015-16 are compared with the approved ARR, as per Mid-term Review Order issued on 29th May 2014.

The Commission has analysed each of the components of the Aggregate Revenue Requirement (ARR) in the following sections.

## 4.2 Energy Sales

**Petitioner's submission**

MUPL has submitted the actual energy sales for FY 2015-16 as shown in the table below.

**Table 4-1: Energy sales submitted by MUPL for FY 2015-16**

**(MUs)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 |
|---|---|---|
| Energy sales | 313.00 | 184.76 |

MUPL has submitted that the deviation in energy sales is mainly because of variation in number of customers and their demand. Due to overall economic slowdown, the growth in the demand and sales was lower than what was projected.

**Commission's analysis**

As energy sales are uncontrollable, the Commission accepts the deviation submitted by MUPL. Further, the Commission scrutinized the audited accounts for FY 2015-16 and observed that the actual sales were 193.13 MUs, which was pointed out to MUPL. MUPL replied that the difference of 8.37 MUs is on account of sale of surplus power and the revenue received against this has been booked under income in Financial Accounts. MUPL has clarified that it is has excluded sale of surplus power, revenue and the associated power purchase cost from the figures submitted in the truing up petition. MUPL has submitted a CA certificate validating the breakup of power sales in terms of sale within SEZ area and sale outside SEZ through open access along with the revenue breakup. Further, it has submitted the month-wise invoices for sale through open access along with month-wise reports from SLDC detailing the energy units sold.

The Commission has reviewed the above submissions and found them to be satisfactory. Accordingly, the energy sales for FY 2015-16 are approved as follows.

**Table 4-2: Energy sales approved by the Commission for truing up for FY 2015-16**

**(MUs)**

| **Particulars** | **Approved in the MTR Order for 2015-16** | **Actual submitted for 2015-16** | **Approved in truing up for 2015-16** |
|---|---|---|---|
| Energy sales | 313.00 | 184.76 | 184.76 |

**The Commission approves energy sales of 184.76 MUs for truing up for FY 2015-16.**

## 4.3 Distribution losses

### Petitioner's submission

MUPL has submitted the actual distribution losses for FY 2015-16 as shown in the table below.

**Table 4-3: Distribution losses submitted by MUPL for FY 2015-16**

**(%)**

| **Particulars** | **Approved in the MTR Order for 2015-16** | **Actual submitted for 2015-16** |
|---|---|---|
| Distribution losses | 4.50% | 4.17% |

MUPL has submitted that it considers distribution losses as uncontrollable since it is attributed to technical losses of electrical network which is yet to be optimally loaded.

**Commission's analysis**

The distribution losses as claimed by MUPL at 4.17% is approved for the purpose of true-up for FY 2014-15. Any gain / loss on account of distribution losses is controllable as per GERC (MYT) Regulations, 2011. However, as the projections made in the MYT order 2011 were not based on any energy audit report, the distribution losses has been considered as uncontrollable for the purpose of sharing of gains/ losses for the present control period.

**Table 4-4: Distribution losses approved by the Commission for truing up for FY 2015-16**

**(%)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 |
|---|---|---|---|
| Distribution losses | 4.50% | 4.17% | 4.17% |

**The Commission approves distribution losses of 4.17% for truing up for FY 2015-16.**

## 4.4 Energy requirement

**Petitioner's submission**

MUPL has projected the energy requirement based on actual energy sales and actual distribution and transmission losses.

**Table 4-5: Energy requirement submitted by MUPL for FY 2015-16**

**(MUs)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 |
|---|---|---|
| Energy sales | 313.00 | 184.76 |
| Distribution losses (%) | 4.50% | 4.17% |
| Distribution losses (MU) | 14.00 | 8.03 |
| Energy requirement | 327.00 | 192.79 |
| Transmission loss (%) | 0.00% | 0.00% |
| Transmission loss (MU) | 0.00 | 0.00 |

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 |
|---|---|---|
| **Total energy requirement** | **327.00** | **192.79** |

**Commission's analysis**

Considering the foregoing analysis related to energy sales and distribution losses, the Commission approves the energy requirement as submitted by MUPL. The Commission notes that the energy units pertaining to surplus sale have been excluded. Further, most of the energy quantum has been procured through Adani Power Ltd.'s Mudra plant at MUPL's bus and hence no transmission losses are incurred. In FY 2015-16, MUPL has fulfilled its RPO obligation through procurement of Renewable Energy Certificates (RECs) where again no transmission losses are involved.

**Table 4-6: Energy requirement approved by the Commission for truing up for FY 2015-16**

**(MUs)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 |
|---|---|---|---|
| Energy sales | 313.00 | 184.76 | 184.76 |
| Distribution losses (%) | 4.50% | 4.17% | 4.17% |
| Distribution losses | 14.00 | 8.03 | 8.03 |
| Energy requirement | 327.00 | 192.79 | 192.79 |
| Transmission loss (%) | 0.00% | 0.00% | 0.00% |
| Transmission loss | 0.00 | 0.00 | 0.00 |
| **Total energy requirement** | **327.00** | **192.79** | **192.79** |

**The Commission approves total energy requirement of 192.79 MUs for truing up for FY 2015-16.**

## 4.5 Power purchase cost

**Petitioner's submission**

MUPL has submitted the following power purchase cost.

**Table 4-7: Power purchase cost submitted by MUPL for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 |
|---|---|---|
| Power purchase cost | 141.71 | 102.33 |

MUPL has submitting the following justifications for the power purchase cost incurred:

- The variation in power purchase cost is on account of variation in sales and variation in actual cost with respect to base rate during the year which is uncontrollable
- MUPL has fulfilled its RPO for FY 2015-16 by purchasing Renewable Energy Certificates (RECs) of Rs. 3.28 Crore.
- The Commission had exempted MUPL from RPO for FY 2012-13 and FY 2013-14. However, MUPL has fulfilled its RPO for FY 2012-13 by purchasing RECs of Rs. 1.47 Crore during FY 2015-16, in view of order dated 04.08.2015 of the Commission in the matter of Suo-Motu Proceeding in Petition No. 1307 of 2013 and 1312 of 2013.
- MUPL has also made provision of Rs. 2.25 Crore in FY 2015-16 for pending RPO of previous years, considering statutory liability. However, MUPL has not considered this cost for truing up of FY 2015-16 which shall be considered in the year during actual spent.

**Commission's analysis**

Commission has analysed the power purchase cost in detail in terms of various sources of power, energy units procured and source-wise cost.

The sources of power purchase and energy units procured are as presented below. For satisfaction of its base load power requirement, MUPL has entered into a medium term power purchase arrangement with Adani Power Ltd. with contracted capacity of 50 MW for FY 2015-16 – the PPA has been approved by the Commission. The balance energy requirement has been met through Unscheduled Interchange (UI) which has been verified through SLDC reports.

**Table 4-8: Sources of power purchase and energy units procured approved by the Commission for truing up for FY 2015-16**

**(MUs)**

| **Particulars** | **Approved in the MTR Order for 2015-16** | **Actual submitted for 2015-16** | **Approved in truing up for 2015-16** |
|---|---:|---:|---:|
| Competitive bidding | 300.84 | 174.90 | 174.90 |
| Wind | 20.44 | 0.00 | 0.00 |
| Solar | 4.09 | 0.00 | 0.00 |
| Biomass/ Others | 1.64 | 0.00 | 0.00 |
| RPO (REC) | - | - | 0.00 |
| UI | - | 17.89 | 17.89 |
| **Total** | **327.00** | **192.79** | **192.79** |

The power purchase cost as approved by Commission is presented below.

**Table 4-9: Source-wise power purchase cost approved by the Commission for truing up for FY 2015-16**

**(Rs. Crore)**

<table>
<tr><th>Particulars</th><th>Approved in the MTR Order for 2015-16</th><th>Actual submitted for 2015-16</th><th>Approved in truing up for 2015-16</th></tr>
<tr><td>Competitive bidding</td><td>128.35</td><td>94.33</td><td>94.33</td></tr>
<tr><td>Wind</td><td>8.60</td><td>-</td><td>-</td></tr>
<tr><td>Solar</td><td>3.94</td><td>-</td><td>-</td></tr>
<tr><td>Biomass/ Others</td><td>0.82</td><td>-</td><td>-</td></tr>
<tr><td>RPO for FY 2012-13 (REC)</td><td>-</td><td rowspan="2">4.75</td><td>1.47</td></tr>
<tr><td>RPO for FY 2015-16 (REC)</td><td>-</td><td>3.28</td></tr>
<tr><td>Scheduling charges & UI charges</td><td>-</td><td>3.25</td><td>3.25</td></tr>
<tr><td>Total</td><td>141.71</td><td>102.33</td><td>102.33</td></tr>
</table>

The Commission reviewed the audited accounts where the power purchase cost has been mentioned as Rs. 107.88 Crore, on which the Commission raised a query with MUPL. In its reply, MUPL has submitted a CA certificate certifying the breakup of Rs. 107.88 Crore which includes Rs. 3.30 Crore of power purchase cost towards surplus power and Rs. 2.25 Crore worth of provisions for RPO, both of which have not been claimed in this petition. MUPL has also submitted a CA certificate certifying the cost of Rs. 1.47 Crore and Rs. 3.28 Crore towards actual cost of REC for FY 2012-13 and FY 2015-16.

**Accordingly, the Commission approves total power purchase cost of Rs. 102.33 Crore for truing up for FY 2015-16.**

As per GERC MYT Regulations, 2011 variation in the price of fuel and/ or price of power purchase are uncontrollable factors. Accordingly, the Commission has approved the gains / (losses) as shown in the table below:

**Table 4-10: Gains / (losses) on account of power purchase cost in the Truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved for 2015-16 in MTR Order | Approved in Truing up | Deviation + / (-) | Gains / (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---|---|---|---|---|---|
| Total power purchase cost | 141.71 | 102.33 | 39.38 | 0.00 | 39.38 |

## 4.6 Capital expenditure, capitalization and funding of capex

### Petitioner's submission

MUPL has stated that it has undertaken gross capitalization of Rs 1.37 Crore [net capitalization of Rs. 0.34 Crore excluding SLC of Rs. 1.03 Crore] as against the approved capitalization of Rs. 48.74 Crore for FY 2015-16 as per the Commission Mid-term review order dated 29.05.2014. The following details have been submitted in respect of the capital expenditure incurred.

**Table 4-11: Capital expenditure submitted by MUPL for FY 2015-16**

**(Rs. Lakh)**

| No. | Particular | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 |
|---|---|---|---|
| **A** | **EHV (220 kV & 66 kV)** | | |
| | EHV Transmission line | 1126 | 1 |

| No. | Particular | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 |
|---|---|---|---|
| | EHV Transmission Cable | 713 | - |
| | EHV Substation | 1280 | 19 |
| | Land Cost | 1935 | - |
| | Civil Cost | 369 | - |
| | **Total** | **5422** | **20** |
| **B** | **HT (33 kV & 11 kV) & NETWORK** | | |
| | 33 kV HT cable Network | 126 | - |
| | 11 kV HT cable Network | 101 | 19 |
| | 33 / 11 kV HT Substation | 24 | - |
| | Land Cost | 171 | - |
| | Civil Cost | 25 | - |
| | **Total** | **448** | **19** |
| **C** | **Others** | | |
| | Automation & SCADA | 404 | 97 |
| | Testing and Measuring Equipment | 152 | - |
| | IT | 1 | 0.4 |
| | Meters & AMR | 43 | - |
| | Miscellaneous | - | 0.3 |
| | Buildings & other civil work | 29 | - |
| | **Total** | **628** | **98** |
| **D** | **Gross CAPEX** | **6498** | **137** |
| | Less: SLC | - | 103 |
| **E** | **Net CAPEX** | **6498** | **34** |

MUPL has submitted that the reason for lower capitalization compared to the approved value was mainly on the account of lower materialization of consumer's projections and less demand achieved compared to the projections. The Commission had approved 59 consumers in Mid-term review of business plan order dated 29.05.2014 but in actual only 48 consumers were operational during FY 2015-16 and they were 43 during FY 2014-15. The Demand approved was 70 MVA while the actual achieved was 44 MVA. Thus, the variation in CAPEX for FY 2015-16 was due to deferment of some of the projects / expansions because of overall slowdown and therefore, the capitalization of various assets like transmission line, cables, Automation, IT, Buildings and other civil work for 220 kV, 66 kV, 33kV and 11 kV network were deferred.

**Commission's analysis**

The Commission observes that there is considerable variation in the capital expenditure/ capitalization in projections for FY 2015-16 and actuals. However, as the reason for variation is lower materialization of consumer demand as submitted by MUPL, which is also reflected in the actual energy sales, the Commission accepts submission of MUPL in this regard.

In terms of value submitted, the Commission has scrutinized the audited annual accounts for FY 2015-16 and observed that the actual capital expenditure works out to Rs. 1.66 Crore based on the values for capital works in progress and gross fixed assets added as shown below:

**Table 4-12: Capex worked out by Commission for FY 2015-16**

**(Rs. Crore)**

| No. | Particulars | Value as per audited accounts |
|---|---|---|
| A | Opening CWIP | 2.75 |
| B | Closing CWIP | 3.04 |
| C | Gross Fixed Assets added | 1.37 |
| | **Capex [C+(B-A)]** | **1.66** |

Further, in terms of SLC, the Commission observes that as per audited accounts, a total sum of Rs. 3.05 Crore was received during the year from consumers against which MUPL has claimed only Rs. 1.03 Crore towards capitalization. On a query from Commission in this regard, MUPL has submitted that the amount claimed under capitalization corresponds to the actual assets created using SLC money while the rest of the money is a CWIP which is yet to be capitalized. MUPL has also submitted a detailed CA certificate which provides full details of the SLC account including opening and closing values, money received and money applied towards asset creation – the Commission has scrutinized this and verified the amount of SLC used towards asset creation. The Commission accepts the philosophy that SLC used towards asset creation should be considered while computing the funding of capex which is in line with the approach followed for capital expenditure and capitalization.

Considering the foregoing analysis, the Commission has approved the following capex, capitalization and funding of capex.

**Table 4-13: Capital expenditure, capitalization and funding of capex approved by the Commission for truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 |
|---|---|---|---|
| Capex | 64.98 | 1.37 | 1.66 |
| Capitalization | 48.74 | 1.37 | 1.37 |
| Less: SLC | 19.01 | 1.03 | 1.03 |
| Funding of capex | 29.73 | 0.34 | 0.34 |
| Normative Debt (70%) | 20.81 | 0.24 | 0.24 |
| Normative Equity (30%) | 8.92 | 0.10 | 0.10 |

**Thus, the Commission approves a capex of Rs. 1.66 Crore and net capitalization of Rs. 0.34 Crore after considering SLC of Rs. 1.03 Crore, for truing up for FY 2015-16. The funding of capex is approved as normative debt addition of Rs. 0.24 Crore and normative equity addition of Rs. 0.10 Crore.**

## 4.7 Operations and Maintenance Expenses

### Petitioner’s submission

The Operations and Maintenance expenses comprise the Employee cost, Administration and General expenses and Repairs and Maintenance expenditure. The actual Operations and Maintenance expenses furnished by MUPL are given in table below.

**Table 4-14: Operation and Maintenance expense submitted by MUPL for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 |
|---|---|---|
| Operation and Maintenance expense | 7.50 | 8.50 |

MUPL has submitted that it has started its commercial operation in FY 2010-11. It has identified various needs of monitoring as well as maintenance in view of typical weather condition of coastal area. The actual total O&M expenses as per the audited accounts are Rs. 8.50 Crore for FY 2015-16 compared to the approved expenses of Rs. 7.50 Crore. MUPL has submitted that the higher actual O&M expenses are mainly due to higher inflation rate coupled with growth and need of close monitoring & preventive maintenance of electrical network & equipment due to typical weather condition of costal area. MUPL has also pointed out that as per the methodology specified in the GERC (MYT) Regulations, 2016 to determine O&M expenses for the 3rd control period from FY 2016-17 to FY 2020-21, the normative O&M expenses for FY 2015-16 works out to be Rs. 8.58 Crore.

Further, MUPL has stated that it has put in place its best efforts in FY 2015-16 to control the O&M expenses which results in actual total O&M expenses of Rs. 8.50 Crore for FY 2015-16 which is comparably less than the total O&M expenses of Rs. 8.79 Crore approved by the Commission for FY 2014-15 at the time of truing up. MUPL has also undertaken following initiatives during the year to control O&M expenses in the license area:

- Interconnection of EHV Sub-stations through OFC network
- Unmanning of 66 kV / 33 kV / 11 kV Sub-station
- Automation of EHV Sub-stations for remote monitoring and operation through SCADA

**Commission's analysis**

The Commission has verified the O&M expenses using the audited accounts. The Commission observes that MUPL has included an amount of Rs. 14.45 Lakh towards donations and CSR activities, which the Commission has not considered. Accordingly, the Commission approves the following O&M expenses.

**Table 4-15: Operation and Maintenance expense approved by the Commission for truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 |
|---|---|---|---|
| Employee expenses | | 2.53 | 2.53 |
| Repairs & Maintenance expenses | **7.50** | 1.41 | 1.41 |
| Administration & General expenses | | 4.56 | 4.42 |
| **Total O&M expenses** | | **8.50** | **8.36** |

**The Commission approves O&M expenses of Rs. 8.36 Crore for truing up for FY 2015-16.**

As per GERC MYT Regulations, 2011 variation in the operations and maintenance expenses is a controllable factor. Accordingly, the Commission has approved the gains / (losses) as shown in the table below:

**Table 4-16: Gains / (losses) on account of O&M expenses in the Truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved for 2015-16 in MTR Order | Approved in Truing up | Deviation + / (-) | Gains / (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---|---|---|---|---|---|
| O&M expenses | 7.50 | 8.36 | (0.86) | (0.86) | 0.00 |

## 4.8 Depreciation

### Petitioner's submission

MUPL has submitted the following details related to fixed assets and depreciation for the purpose of truing up for FY 2015-16.

**Table 4-17: Depreciation expense submitted by MUPL for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 |
|---|---|---|
| Gross block at the beginning of the year | 126.44 | 85.80 |
| Addition during the year | 48.74 | 1.37 |
| **Depreciation** | **5.77** | **3.60** |

MUPL has submitted that the computation of depreciation on the fixed assets is based on straight line method of computation as prescribed in the Regulations. The Depreciation rates considered are the rates as per GERC (Multi Year Tariff) Regulations, 2011. The amount of depreciation is lower than that approved by the Commission due to lower capitalization.

**Commission's analysis**

The Commission has scrutinized the audited accounts in detail to verify each and every component leading to computation of depreciation. This includes opening, addition and closing values for gross block and depreciation for FY 2015-16. In regards to asset funded through SLC, the Commission observed opening gross block claimed by MUPL as per format F5 15-16 did not tally with the values as per audited accounts, which was raised as a query to MUPL. In its reply, MUPL admitted a typo error and submitted a CA certificate validating the gross block and depreciation claimed on assets funded through SLC in FY 2015-16.

Further, the Commission noticed that the depreciation rate on Computer hardware was applied incorrectly at 30% instead of 15% as specified in the regulations. The Commission has recomputed the depreciation using correct value.

Based on the foregoing analysis, the Commission approves the following in regards to depreciation.

**Table 4-18: Depreciation expense approved by the Commission for truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 |
|---|---|---|---|
| **Entire assets** | | | |
| Opening gross block | 126.44 | 85.80 | 85.80 |
| Addition | 48.74 | 1.37 | 1.37 |
| Closing gross block | 175.18 | 87.16 | 87.16 |
| **Depreciation amount** | **7.96** | **4.50** | **4.50** |
| Effective depreciation rate (%) | 5.28% | 5.20% | 5.20% |
| | | | |
| **SLC funded assets** | | | |
| Opening gross block | 32.04 | 15.44 | 16.16 |
| Addition | 19.01 | 1.03 | 1.03 |
| Closing gross block | 51.05 | 16.47 | 17.19 |
| **Depreciation amount** | **2.19** | **0.90** | **0.90** |
| Effective depreciation rate (%) | 5.28% | 5.62% | 5.38% |
| | | | |
| **Net depreciation** | **5.77** | **3.60** | **3.60** |

**The Commission approves Rs. 3.60 Crore depreciation for the purpose of truing up for FY 2015-16.**

With regard to the computation of Gains / (Losses), Regulation 23.2 of GERC (MYT) Regulations, 2011 considers variations in capitalisation on account of time and/or cost overruns / efficiencies in the implementation of a capital expenditure project not attributable to an approved change in scope of such project, change in statutory levies or force majeure events, as a controllable factor. If the gain is on account of lesser capital expenditure and capitalisation, it cannot be attributed to the efficiency of the utility to allow one-third of gain to the utility. Similarly, if the loss is on account of higher capital expenditure and capitalisation due to bonafide reasons, the utility cannot be penalised by allowing only two-thirds of the loss in the ARR. Hence, Commission considers the variation in capitalization as uncontrollable. This applies to debt and equity in allowing Gains / (Losses) on account of interest and return on equity too. Accordingly, the Commission has approved the gains / (losses) as shown in the table below:

**Table 4-19: Gains / (losses) on account of depreciation in the Truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved for 2015-16 in MTR Order | Approved in Truing up | Deviation + / (-) | Gains / (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---|---|---|---|---|---|
| Depreciation | 5.77 | 3.60 | 2.17 | 0.00 | 2.17 |

## 4.9 Interest and finance charges

### Petitioner's submission

MUPL has submitted the following details in respect of interest and finance charges.

**Table 4-20: Interest and finance charges submitted by MUPL for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 |
|---|---|---|
| **Interest on normative loan** | | |
| Opening loan | 54.19 | 35.05 |
| Addition | 20.81 | 0.24 |
| Less: Repayment | 5.77 | 3.60 |
| Closing loan | 69.23 | 31.68 |
| Average loan | 61.71 | 33.36 |
| Rate of interest (%) | 10.50% | 11.65% |
| **Interest on normative loan** | **6.48** | **3.89** |
| | | |
| **Bank & finance charges** | | |
| Charges | 0.00 | 0.12 |
| | | |
| **Total interest and finance charges** | **6.48** | **4.01** |

MUPL has submitted that the Commission had approved borrowings of Rs. 20.81 Crore for FY 2015-16 on gross capitalization of Rs. 48.74 Crore. However, the normative borrowing for FY 2015-16 on net capitalization excluding SLC works out to be Rs. 0.24 Crore. MUPL has calculated the interest expense on the basis of actual interest charged by the bank for existing loan as per GERC (MYT) Regulations, 2011. MUPL has availed a normative term loan for the period of 5 Year and has paid the interest amount to the bank at weighted average interest rate of 11.65%.

**Commission's analysis**

The Commission has verified the normative loan opening value with the normative closing loan value approved in truing up of FY 2014-15. The loan addition has been considered in line with the normative loan addition derived in the discussion on capitalization. The repayment has been equated to net value of depreciation.

In terms of the interest rate used, the Commission observes that MUPL has claimed a rate of 11.65%. The Commission has reviewed the audited accounts in terms of opening and closing loan balance and actual interest paid. Accordingly, the Commission has accepted MUPL's claim in this regard.

The bank and finance charges have been cross checked with the audited accounts. The Commission observes that the audited expense under this head is Rs. 0.02 Crore which the Commission has approved.

Based on the foregoing analysis, the Commission's analysis is presented below:

**Table 4-21: Interest and finance charges approved by the Commission for truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 |
|---|---|---|---|
| **Interest on normative loan** | | | |
| Opening loan | 54.19 | 35.05 | 35.05 |
| Addition | 20.81 | 0.24 | 0.24 |
| Less: Repayment | 5.77 | 3.60 | 3.60 |
| Closing loan | 69.23 | 31.68 | 31.69 |

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 |
|---|---|---|---|
| Average loan | 61.71 | 33.36 | 33.37 |
| Rate of interest (%) | 10.50% | 11.65% | 11.65% |
| **Interest on normative loan** | **6.48** | **3.89** | **3.89** |
| | | | |
| **Bank & finance charges** | | | |
| Charges | 0.00 | 0.12 | 0.02 |
| | | | |
| **Total interest and finance charges** | **6.48** | **4.01** | **3.91** |

**The Commission approves interest and finance charges at Rs. 3.91 Crore for truing up for FY 2015-16.**

As noted in the preceding section, the Commission is of the view that the parameters which affect interest and finance charges should be treated as uncontrollable. Accordingly, the Commission has approved the gains / (losses) as shown in the table below:

**Table 4-22: Gains / (losses) on account of interest and finance charges in the Truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved for 2015-16 in MTR Order | Approved in Truing up | Deviation + / (-) | Gains / (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---|---|---|---|---|---|
| Interest and finance charges | 6.48 | 3.91 | 2.57 | 0.00 | 2.57 |

## 4.10 Interest on working capital

### Petitioner's submission

MUPL has submitted the following details regarding interest on working capital.

**Table 4-23: Interest on working capital submitted by MUPL for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 |
|---|---|---|
| **Working capital requirement** | | |
| O&M Expenses | 0.62 | 0.71 |
| Spares at 1% of GFA | 1.26 | 0.86 |
| Receivables | 14.30 | 9.67 |
| Sub-total | 16.18 | 11.23 |
| Less: security deposit | 49.47 | 3.08 |
| **Normative Working Capital** | **(33.29)** | **8.15** |
| Interest rate (%) | 14.75% | 14.75% |
| **Interest on working capital** | **0.00** | **1.20** |

MUPL has submitted that interest on working capital has been computed by applying applicable interest rate on the requirement of working capital. The working capital computed as per GERC (MYT) Regulations, 2011 works out to be Rs. 11.23 Crore which is more than the security deposit amount of Rs. 3.08 Crore. MUPL has considered interest on working capital at the State Bank Advance Rate (SBAR) of 14.75% as on 01-Apr-2015 for FY 2015-16.

### Commission's analysis

The Commission has reviewed the working capital requirement in terms of the component wise values approved in preceding sections. The interest rate used is the SBAR existing as on 01.04.2015 i.e. 14.75%.

**Table 4-24: Interest on working capital approved by the Commission for truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 |
|---|---|---|---|
| **Working capital requirement** | | | |
| O&M Expenses (1 month) | 0.62 | 0.71 | 0.70 |

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 |
|---|---|---|---|
| Spares (1% of GFA) | 1.26 | 0.86 | 0.86 |
| Receivables (1 month of revenue at existing tariffs) | 14.30 | 9.67 | 9.67 |
| Sub-total | 16.18 | 11.23 | 11.22 |
| Less: security deposit | 49.47 | 3.08 | 3.08 |
| **Normative Working Capital** | **(33.29)** | **8.15** | **8.14** |
| Interest rate | 14.75% | 14.75% | 14.75% |
| **Interest on working capital** | **0.00** | **1.20** | **1.20** |

**The Commission approves interest on working capital at Rs. 1.20 Crore for truing up for FY 2015-16.**

The Commission considers the Interest on working capital as uncontrollable, since the components forming part of the working capital are mostly uncontrollable. Accordingly, the Commission has approved the gains / (losses) as shown in the table below:

**Table 4-25: Gains / (losses) on account of interest on working capital in the Truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved for 2015-16 in MTR Order | Approved in Truing up | Deviation + / (-) | Gains / (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---|---|---|---|---|---|
| Interest on working capital | 0.00 | 1.20 | (1.20) | 0.00 | (1.20) |

## 4.11 Interest on security deposit

### Petitioner's submission

MUPL has submitted the following details regarding interest on security deposit.

**Table 4-26: Interest on security deposit submitted by MUPL for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 |
|---|---|---|
| Security deposit | 49.47 | 3.00 |
| Interest cost | 4.48 | 0.24 |

MUPL has submitted that the contribution to security deposit depends upon the addition of new consumers & their load growth from time to time as projected in ARR Petition for FY 2015-16. Moreover, the bulk consumers opt to give Bank Guaranty (BG) instead of cash deposit in case of amount of security deposit more than 25 lakh. MUPL has used an interest rate of 8.50% in line with the bank rate specified as per RBI circular no. RBI/2014-15/489 dated 04.03.2015.

**Commission's analysis**

The Commission has scrutinized the audited accounts and observed that the opening and closing values of security deposit are Rs. 3.16 Crore and Rs. 3.00 Crore respectively, leading to an average deposit value of Rs. 3.08 Crore. However, the actual interest paid as per audited accounts is found to be Rs. 0.24 Crore. Accordingly, the Commission approves this value as per actuals.

**Table 4-27: Interest on security deposit approved by the Commission for truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 |
|---|---|---|---|
| Average deposit | 49.47 | 3.00 | 3.08 |
| Interest on security deposit | 4.48 | 0.24 | 0.24 |

**The Commission approves interest on security deposit at Rs. 0.24 Crore for truing up for FY 2015-16.**

The factor which affects security deposit is the number of consumers. As per GERC MYT Regulations, 2011 variation in the number of consumers is an uncontrollable factor. Accordingly, the Commission has approved the gains / (losses) as shown in the table below:

**Table 4-28: Gains / (losses) on account of interest on security deposit in the Truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved for 2015-16 in MTR Order | Approved in Truing up | Deviation + / (-) | Gains / (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---|---|---|---|---|---|
| Interest on security deposit | 4.48 | 0.24 | 4.24 | 0.00 | 4.24 |

## 4.12 Return on Equity

### Petitioner's submission

MUPL has submitted the following details in regards to return on equity.

**Table 4-29: Return on Equity submitted by MUPL for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 |
|---|---|---|
| Opening Equity | 31.17 | 20.84 |
| Addition | 8.92 | 0.10 |
| Closing Equity | 40.09 | 20.95 |
| Average Equity | 35.63 | 20.89 |
| **RoE at 14%** | **4.99** | **2.93** |

MUPL has submitted that the equity additions for FY 2015-16 have been determined based on the capital additions during the year. The equity additions in the year have been considered as 30% of the amount of net capitalization (excluding SLC) during the year. The Return on equity has been computed by applying regulated return of 14% on the average of the opening and closing balance of the FY 2015-16 as per the Regulation 38 of GERC (MYT) Regulations, 2011.

**Commission's analysis**

The Commission approves return on equity as provided below:

**Table 4-30: Return on Equity approved by the Commission for truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 |
|---|---|---|---|
| Opening Equity | 31.17 | 20.84 | 20.85 |
| Addition | 8.92 | 0.10 | 0.10 |
| Closing Equity | 40.09 | 20.95 | 20.95 |
| Average Equity | 35.63 | 20.89 | 20.90 |
| **RoE at 14%** | **4.99** | **2.93** | **2.93** |

**The Commission approves return on equity at Rs. 2.93 Crore for truing up for FY 2015-16.**

The Commission is of the view that Return on Equity depends on the amount of capitalisation during the financial year and that the parameters affecting the capitalisation are uncontrollable in nature, as noted in preceding sections. Accordingly, the Commission has approved the gains / (losses) as shown in the table below:

**Table 4-31: Gains / (losses) on account of 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 | Deviation + / (-) | Gains / (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---|---|---|---|---|---|
| Return on Equity | 4.99 | 2.93 | 2.06 | 0.00 | 2.06 |

## 4.13 Income tax

**Petitioner's submission**

MUPL has submitted that it has not paid income tax for FY 2015-16 against a value approved in the MTR order of Rs. 0.13 Crore. Accordingly, it has not claimed any amount under this head.

**Commission's analysis**

**The Commission approves income tax at Rs. 0.00 Crore for truing up for FY 2015-16.**

As per GERC MYT Regulations, 2011 variation in the taxes on income is an uncontrollable factor. Accordingly, the Commission has approved the gains / (losses) as shown in the table below:

**Table 4-32: Gains / (losses) on account of income tax in the Truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved for 2015-16 in MTR Order | Approved in Truing up | Deviation + / (-) | Gains / (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---|---|---|---|---|---|
| Income tax | 0.13 | 0.00 | 0.13 | 0.00 | 0.13 |

## 4.14 Contingency reserve

**Petitioner's submission**

MUPL has submitted that it has not contributed to the contingency reserve during FY 2015-16 against a value approved in the MTR order of Rs. 0.63 Crore. Accordingly, it has not claimed any amount under this head.

**Commission's analysis**

**The Commission approves contribution to contingency reserve at Rs. 0.00 Crore for truing up for FY 2015-16.**

The Commission considers variation in the contribution to contingency reserve as an uncontrollable factor. Accordingly, the Commission has approved the gains / (losses) as shown in the table below:

**Table 4-33: Gains / (losses) on account of contribution to contingency reserve in the Truing up for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved for 2015-16 in MTR Order | Approved in Truing up | Deviation + / (-) | Gains / (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---|---|---|---|---|---|
| Contingency reserve | 0.63 | 0.00 | 0.63 | 0.00 | 0.63 |

## 4.15 Non-tariff income

### Petitioner's submission

MUPL has submitted that the Commission had approved the non-tariff income of Rs. 0.10 Crore in Mid-term review order dated 29.05.2014. However, actual non-tariff income for FY 2015-16 is Rs. 0.56 Crore. The variation in Non-Tariff Income is on account of application fees, interest on short term deposits etc.

### Commission's analysis

The Commission has scrutinized income items from audited accounts and verified the breakup of Non-tariff income. The breakup of non-tariff income claimed by MUPL is as follows:

**Table 4-34: Breakup of non-tariff income for FY 2015-16 as claimed by MUPL**

**(Rs. Crore)**

| Particulars | Value |
|---|---|
| Income from investments | 0.42 |
| Miscellaneous receipts | 0.01 |
| Liability no longer required written back | 0.06 |
| Meter Rent | 0.03 |
| Delay Payment Charges | 0.04 |
| **Total** | **0.56** |

**Accordingly, the Commission approves non-tariff income of Rs. 0.56 Crore for truing up for FY 2015-16.**

The Commission considers variation in the non-tariff income as an uncontrollable factor. Accordingly, the Commission has approved the gains / (losses) as shown in the table below:

**Table 4-35: Gains / (losses) on account of 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 | Deviation + / (-) | Gains / (Losses) due to controllable factor | Gains / (Losses) due to uncontrollable factor |
|---|---|---|---|---|---|
| Non-tariff income | 0.10 | 0.56 | (0.46) | 0.00 | (0.46) |

## 4.16 Revenue from sale of power to consumers

MUPL has claimed a revenue of Rs. 116.02 Crore from sale of power to consumers in FY 2015-16. The Commission observes that the revenue as per audited accounts is Rs. 119.32 Crore which includes Rs. 3.30 Crore worth of revenue towards sale of surplus power.

**Accordingly, the Commission approves a revenue of Rs. 116.02 Crore from sale of power to consumers for truing up for FY 2015-16.**

## 4.17 Summary of aggregate revenue requirement and sharing of gains/ losses

### Petitioner’s submission

MUPL has submitted the comparison of various ARR items and computed the gains/ losses due to controllable and uncontrollable factors as summarized below:

**Table 4-36: Controllable & uncontrollable variations for FY 2015-16 as submitted by MUPL**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Over (+) / Under (-) Recovery | Gain/ (Loss) due to Controllable factor | Gain/ (Loss) due to Uncontrollable factor |
|---|---|---|---|---|---|
| Power purchase cost | 141.71 | 102.33 | 39.38 | 0.00 | 39.38 |
| O&M expenses | 7.50 | 8.50 | (1.00) | (1.00) | 0.00 |
| Depreciation | 5.77 | 3.60 | 2.17 | 0.00 | 2.17 |
| Interest and finance charges | 6.48 | 4.01 | 2.47 | 0.00 | 2.47 |
| Interest on security deposit | 4.48 | 0.24 | 4.24 | 0.00 | 4.24 |
| Interest on working capital | 0.00 | 1.20 | (1.20) | 0.00 | (1.20) |
| Provision for Bad Debts | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Contingency reserve | 0.63 | 0.00 | 0.63 | 0.00 | 0.63 |
| Income Tax | 0.13 | 0.00 | 0.13 | 0.00 | 0.13 |
| Return on Equity | 4.99 | 2.93 | 2.06 | 0.00 | 2.06 |
| Less: Non-tariff income | 0.10 | 0.56 | (0.46) | 0.00 | (0.46) |
| **Aggregate revenue requirement** | **171.59** | **122.25** | **49.34** | **(1.00)** | **50.34** |

MUPL has identified all the expenditure heads under controllable and uncontrollable categories. The gains / (losses) arise as a result of true up for FY 2015-16 for MUPL and shall be suitably passed through the tariff as per mechanism specified by the Commission. The variation in the power purchase cost from approved ARR is on account of variation in sales and variation in actual cost. Any variation on account of power procurement cost is treated as uncontrollable. The variation in O&M expenses are treated as controllable. The variation in RoE, interest and depreciation on account of variation in capitalization are to be treated as uncontrollable. Similarly, the variations in contingency reserves and non-tariff income have been treated as uncontrollable.

Based on the above, the sharing of gains and losses due to controllable & uncontrollable factors is summarized below.

**Table 4-37: Sharing of gains & losses for FY 2015-16 as submitted by Petitioner**

**(Rs. Crore)**

| Particulars | Pass through by adjustment of tariff | To be retained/ absorbed | Total |
|---|---|---|---|
| Controllable gain | (0.33) | (0.67) | (1.00) |
| Uncontrollable gain | 50.34 | - | 50.34 |
| **Total** | **50.01** | **(0.67)** | **49.34** |

As per the above table, out of total gain of Rs. 49.34 Crore, the benefit of Rs. 50.01 Crore shall be passed through to the consumers. MUPL shall absorb burden of Rs. 0.67 Crore as per the GERC (Multi Year Tariff) Regulations, 2011.

Following is the summary of trued up ARR of 2015-16 to be recovered by MUPL after incorporation of sharing of gains / losses

**Table 4-38: Trued up ARR for FY 2015-16 as submitted by MUPL**

**(Rs. Crore)**

| Particulars | Actual submitted for 2015-16 |
|---|---|
| ARR approved in MTR order for 2015-16 (a) | 171.59 |
| Less : Gain on account of controllable factor to be passed on to the consumers (1/3rd) (b) | (0.33) |
| Less : Gain on account of uncontrollable factor to be passed on to the consumers (c) | 50.34 |
| **ARR trued up of 2015-16 [(d)=a-(b+c)]** | **121.58** |

### Commission's analysis

The Commission reviewed the performance of MUPL under Regulation 22 of GERC (MYT) Regulations, 2011 with reference to the Audited Annual Accounts for FY 2015-16. The Commission has computed the sharing of gains and losses for FY 2015-16 based on the truing up for each of the components discussed in the above paragraphs. The ARR approved for FY 2015-16 in the MTR order dated 29th May, 2014, and computed in accordance with GERC (MYT) Regulations, 2011 are given in the table below:

**Table 4-39: ARR approved for FY 2015-16 along with impact of controllable/ uncontrollable factors**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 | Gain/ (Loss) | Controllable Gain/ (Loss) | Uncontrollable Gain/ (Loss) |
|---|---|---|---|---|---|---|
| Power purchase cost | 141.71 | 102.33 | 102.33 | 39.38 | | 39.38 |
| O&M expenses | 7.50 | 8.50 | 8.36 | (0.86) | (0.86) | 0.00 |
| Depreciation | 5.77 | 3.60 | 3.60 | 2.17 | | 2.17 |
| Interest and finance charges | 6.48 | 4.01 | 3.91 | 2.57 | | 2.57 |
| Interest on security deposit | 4.48 | 0.24 | 0.24 | 4.24 | | 4.24 |
| Interest on working capital | 0.00 | 1.20 | 1.20 | (1.20) | | (1.20) |
| Provision for Bad Debts | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Return on Equity | 4.99 | 2.93 | 2.93 | 2.06 | | 2.06 |
| Income Tax | 0.13 | 0.00 | 0.00 | 0.13 | | 0.13 |
| Contingency reserve | 0.63 | 0.00 | 0.00 | 0.63 | | 0.63 |
| Less: Non-tariff income | 0.10 | 0.56 | 0.56 | (0.46) | | (0.46) |
| **Aggregate revenue requirement** | **171.59** | **122.25** | **122.00** | **49.59** | **(0.86)** | **50.44** |

Summary of trued up ARR of FY 2015-16 to be recovered by MUPL after incorporation of sharing of Gains/ Losses is as detailed in table below:

**Table 4-40: Trued up ARR for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in truing up for 2015-16 |
|---|---|
| ARR approved in MTR order for 2015-16 (a) | 171.59 |
| Add: Loss on account of controllable factor to be passed to consumers (1/3$^{rd}$) (b) | 0.29 |
| Less: Gain on account of uncontrollable factor (c) | 50.44 |
| **ARR trued up of 2015-16 [(d)=a+b-c]** | **121.44** |

## 4.18 Net revenue Gap / (Surplus)

The Net revenue Gap / (Surplus) approved for FY 2015-16 is given in the table below:

**Table 4-41: Net revenue Gap / (Surplus) approved for FY 2015-16**

**(Rs. Crore)**

| Particulars | Approved in the MTR Order for 2015-16 | Actual submitted for 2015-16 | Approved in truing up for 2015-16 |
|---|---|---|---|
| 1. Annual Revenue Requirement (Trued up) | 171.59 | 121.58 | 121.44 |
| 2. Revenue from Sale of Power | 195.63 | 116.02 | 116.02 |
| **3. Net Revenue Gap / (Surplus) (2-1)** | **(24.04)** | **5.56** | **5.42** |

**Accordingly, the Commission approves the trued up gap of FY 2015-16 as Rs. 5.42 Crore against Rs. 5.56 Crore gap claimed by MUPL. This trued up gap is considered by the Commission for determination of tariff for FY 2017-18.**

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

## 5.1 Introduction

In this chapter, the Commission has scrutinized the ARR components of MUPL for the control period FY 2016-17 to FY 2020-21 with respect to the GERC (MYT) Regulations, 2016 and accordingly determined the ARR for MUPL for the control period.

## 5.2 Energy sales

**Petitioner's submission**

MUPL has submitted that the Mundra SEZ is still in development phase and setting up of new industries and associated infrastructure would take place gradually over time, based on economic conditions. Due to overall economic slowdown, development / expansion of established units are uncertain in the years to come and new units which are yet to establish their setup may defer their operations. This makes it difficult to carry out projections accurately for the control period FY 2016-17 to FY 2020-21.

The Mundra SEZ is likely to have industrial and commercial consumers mainly. MUPL has worked out projected demand for electricity based on estimated power requirements of existing and prospective consumers with reference to development plan. MUPL has also collected inputs from developer of the Mundra SEZ for load projection about prospective clients in pipeline. However, MUPL has taken conservative approach for forecast. The summary of energy sales projected by MUPL is as shown in the table below:

**Table 5-1: Energy sales projected by MUPL for FY 2016-17 to FY 2020-21**

**(MUs)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| **HT Category** | | | | | |
| HTMD-I | 228.21 | 386.12 | 536.05 | 611.88 | 630.97 |
| HTMD-II | 0.89 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | |
| **Low Voltage Category** | | | | | |
| Residential | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Commercial (Non Demand) | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Commercial (Demand) | 2.04 | 2.42 | 2.42 | 2.55 | 2.55 |
| Industrial (Non Demand) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Industrial (Demand) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Street Lights | 0.40 | 0.59 | 0.59 | 0.59 | 0.59 |
| Temporary | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | |
| **Total** | **231.63** | **389.14** | **539.07** | **615.03** | **634.12** |

In terms of the numbers of customers, MUPL has submitted that the consumer category mainly served by MUPL in Mundra SEZ area would likely to be predominantly industrial and commercial bulk consumers of HTMD-I category. The consumer base of other categories would be negligible. Based on inputs collected from developer of Mundra SEZ about prospective clients and details of plots allotted so far in Mundra SEZ area, the projections for number of consumers for the control period have been worked out. The summary is as under:

**Table 5-2: Number of customers projected by MUPL for FY 2016-17 to FY 2020-21**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| **HT Category** | | | | | |
| HTMD-I | 33 | 46 | 52 | 54 | 54 |
| HTMD-II | 1 | - | - | - | - |
| | | | | | |
| **Low Voltage Category** | | | | | |
| Residential | - | - | - | - | - |

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Commercial (Non Demand) | 1 | 1 | 1 | 1 | 1 |
| Commercial (Demand) | 17 | 16 | 16 | 16 | 16 |
| Industrial (Non Demand) | - | - | - | - | - |
| Industrial (Demand) | - | - | - | - | - |
| Street Lights | 7 | 7 | 7 | 7 | 7 |
| Temporary | 1 | - | - | - | - |
| | | | | | |
| **Total** | **60** | **70** | **76** | **78** | **78** |

### Commission's analysis

Commission has reviewed the detailed model used by MUPL to estimate the demand during the control period. The model is based on projection of consumer category-wise number of customers, kVA demand, load factor and accordingly the energy sales have been worked out. As energy sales are difficult to predict given that the SEZ is still under development stage, the Commission accepts submission of MUPL in terms of energy sales and number of customers.

**Table 5-3: Energy sales approved by the Commission for FY 2016-17 to FY 2020-21**

**(MUs)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| **HT Category** | | | | | |
| HTMD-I | 228.21 | 386.12 | 536.05 | 611.88 | 630.97 |
| HTMD-II | 0.89 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | |
| **Low Voltage Category** | | | | | |
| Residential | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Commercial (Non Demand) | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Commercial (Demand) | 2.04 | 2.42 | 2.42 | 2.55 | 2.55 |
| Industrial (Non Demand) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Industrial (Demand) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Street Lights | 0.40 | 0.59 | 0.59 | 0.59 | 0.59 |
| Temporary | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | |

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| **Total** | **231.63** | **389.14** | **539.07** | **615.03** | **634.12** |

## 5.3 Distribution losses

### Petitioner's submission

MUPL has projected a constant distribution losses of 4.00% for each year of the control period FY 2016-17 to FY 2020-21.

### Commission's analysis

The Commission has analysed the historical actual distribution losses of MUPL which shows that there has been an increasing trend.

**Table 5-4: Actual historical distribution losses for MUPL**

**(%)**

| Particulars | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|---|---|---|---|---|---|
| Distribution losses | 3.69% | 3.88% | 4.06% | 4.06% | 4.17% |

Considering the above, the Commission accepts MUPL's submission and accordingly approves the following distribution losses.

**Table 5-5: Distribution losses approved by the Commission for FY 2016-17 to FY 2020-21**

**(%)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Distribution losses | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% |

## 5.4 Energy requirement

### Petitioner's submission

MUPL has submitted that as it is directly connected with APL bus through dedicated transmission line, the transmission losses is NIL for present LTPPA with APL. The renewable power requirement to fulfil RPO has been considered by purchase of power from renewable project developers within the state of Gujarat and therefore, transmission losses of STU (GETCO) has been considered for wheeling of renewable power at EHV level. Losses of GETCO have been considered @ 4.10%

as approved by the Commission for FY 2015-16. The power requirement beyond existing long term power procurement plan has been considered through medium term power purchase. However, delivery of power by any generators/traders has been considered at petitioner's bus and therefore, no transmission losses of power has been considered. Accordingly, the estimated energy sales, losses and energy requirement for the control period FY 2016-17 to FY 2020-21 as projected by MUPL are given below:

**Table 5-6: Energy requirement projected by MUPL for FY 2016-17 to FY 2020-21**

**(MUs)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Sales | 231.63 | 389.14 | 539.07 | 615.03 | 634.12 |
| Distribution losses (%) | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% |
| Energy Requirement | 241.27 | 405.35 | 561.53 | 640.66 | 660.54 |
| Transmission loss | 0.00 | 2.47 | 4.08 | 5.41 | 6.35 |
| **Total energy requirement** | **241.27** | **407.82** | **565.61** | **646.07** | **666.89** |

### 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 5-7: Energy requirement approved by Commission for FY 2016-17 to FY 2020-21**

**(MUs)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Sales | 231.63 | 389.14 | 539.07 | 615.03 | 634.12 |
| Distribution losses (%) | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% |
| Distribution losses (MU) | 9.65 | 16.21 | 22.46 | 25.63 | 26.42 |
| Energy Requirement | 241.28 | 405.35 | 561.53 | 640.66 | 660.54 |
| Transmission loss (MU) | 0.00 | 1.78 | 4.60 | 7.76 | 8.56 |
| **Total energy requirement** | **241.28** | **407.13** | **566.13** | **648.42** | **669.10** |

## 5.5 Power purchase cost

**Petitioner's submission**

The quantum of power procurement has been worked out based on projected sale of power to MUPL's customers and projected T&D losses. MUPL has considered import of power at single interface point. MUPL has interface connectivity through dedicated 220 KV D/C TL with 220 KV Bus of Adani Power Limited (APL). It has signed a long term PPA for 50 MW with APL on 29.11.2013 which has been approved by the Commission vide its order dated 11.06.2014 in petition no. 1393/2014. The power supply under this long term PPA has been commenced with effect from 01.04.2016.

MUPL has submitted that considering the uncertainty in demand projections for the control period and to mitigate the risk of burdening the consumers with heavy loading of fixed charges in the 3rd Control Period, MUPL has not considered to initiate any further process to purchase power under long term arrangement. MUPL may purchase additional power requirement up to 10 MW from APL under the existing long term contract in parts based upon the increase in demand at the same tariff which is derived competitively. Further, it will meet the additional power requirement over and above the long term PPA through medium term tenders under competitive bidding till the time demand of the SEZ area is not stabilized.

Further, MUPL has submitted that it has considered purchase of RECs for its RPO compliance for FY 2016-17 as it is cheaper than buying renewable power at preferential tariff in present scenario of under-utilization of LTPPA. MUPL has considered to procure renewable power to fulfil its RPO as per GERC (Procurement of Energy from Renewable Sources) (First Amendment) Regulations, 2014 and guideline issued by Ministry of Power vide order dated 22nd July, 2016 for long term RPO growth trajectory.

Considering the foregoing analysis, MUPL has projected the total power cost as tabulated below:

**Table 5-8: Power purchase cost for the control period as projected by MUPL**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Total Quantity (MUs) | 241.27 | 407.82 | 565.61 | 646.07 | 666.89 |
| Total Cost (Rs. Crore) | 116.36 | 178.31 | 254.26 | 291.40 | 307.25 |

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| **Cost Per Unit (Rs./kWh)** | **4.82** | **4.37** | **4.50** | **4.51** | **4.61** |

**Commission's analysis**

Contracted power sources

In terms of contracted sources of power, the Commission had approved power procurement on long term basis from Adani Power Ltd.'s (APL) Mundra thermal power plant vide its order dated 11.06.2014 in petition no. 1393 of 2014. The contracted capacity under the LT PPA with APL is for 50 MW (+/-20%) i.e. upto 60 MW. Apart from the 50 MW PPA with APL, no other source of power, either long term or medium term, has been approved by the Commission.

**Accordingly, the Commission has considered the full available contracted capacity under the APL PPA, considering the energy requirement in each year. For meeting any remaining base load requirement, the Commission has considered bilateral contracts as the source of power, considering the expected surplus power availability in the system.**

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 28th 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 5-9: RPO trajectory considered by the Commission for FY 2016-17 to FY 2020-21**

**(%)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Solar | 1.75% | 3.00% | 4.25% | 5.50% | 6.75% |
| Wind | 7.75% | 7.85% | 7.95% | 8.05% | 8.15% |
| Others (Biomass, Small Hydro, Bagasse, MSW) | 0.50% | 0.50% | 0.50% | 0.75% | 0.75% |
| **Total** | **10.00%** | **11.35%** | **12.70%** | **14.30%** | **15.65%** |

Considering the foregoing analysis, there are three main power source categories that have been approved: APL, Bilateral and RE. For projecting energy availability from APL, the Commission has considered a PLF of 85% in line with the LT PPA approved by the Commission. Further, the Commission has estimated the purchase of energy from renewable sources as per the RPO targets. After considering the obligatory procurement from RE sources, the balance energy requirement has been considered from bilateral source. In terms of transmission losses, the Commission has considered GETCO's transmission loss for RE and bilateral sources of power only as the purchase under APL source is at MUPL's bus. The transmission loss has been considered in line with that approved for GETCO in its order for approval of ARR for FY 2016-17 to FY 2020-21 i.e. 3.85% each year.

**The Commission hereby approves the total energy requirement as follows:**

**Table 5-10: Energy requirement approved by Commission for FY 2016-17 to FY 2020-21**

**(MUs)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Sales | 231.63 | 389.14 | 539.07 | 615.03 | 634.12 |
| Distribution losses (%) | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% |
| Distribution losses (MU) | 9.65 | 16.21 | 22.46 | 25.63 | 26.42 |
| Energy Requirement | 241.28 | 405.35 | 561.53 | 640.66 | 660.54 |
| Transmission loss (MU) | 0.00 | 1.78 | 4.60 | 7.76 | 8.56 |
| **Total energy requirement** | **241.28** | **407.13** | **566.13** | **648.42** | **669.10** |

**The Commission hereby approves the source-wise energy purchase as follows:**

**Table 5-11: Source-wise energy purchases approved by Commission for FY 2016-17 to FY 2020-21**

**(MUs)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| APL - LT | 231.49 | 360.93 | 446.76 | 446.76 | 446.76 |
| Bilateral Contract | 0.00 | 0.00 | 47.47 | 108.94 | 117.62 |
| RPO - Solar | 0.00 | 12.21 | 24.06 | 35.66 | 45.16 |
| RPO - Wind | 0.00 | 31.96 | 45.01 | 52.20 | 54.53 |
| RPO - Others | 0.00 | 2.04 | 2.83 | 4.86 | 5.02 |
| UI | 9.78 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **241.27** | **407.13** | **566.13** | **648.42** | **669.10** |

In order to determine the source-wise power purchase cost, the Commission has considered the rates as per the LT PPA with APL for APL-LT. For bilateral, the Commission has considered GUVNL's sale price for surplus power (marginal cost +

Rs. 0.5/ kWh). For RPO, the Commission has considered the rates as per the latest GERC preferential tariff orders for Solar, Wind and MSW technologies.

**Accordingly, the Commission approves the power purchase cost as follows:**

**Table 5-12: Source-wise power purchase cost approved by Commission for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| APL - LT | 110.21 | 145.96 | 182.18 | 182.29 | 185.96 |
| Bilateral Contract | 0.00 | 0.00 | 12.64 | 29.52 | 32.35 |
| RPO - Solar | - | 7.16 | 14.10 | 20.90 | 26.47 |
| RPO - Wind | - | 13.39 | 18.86 | 21.87 | 22.85 |
| RPO - Others | - | 1.44 | 2.00 | 3.44 | 3.55 |
| REC | 4.54 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other (Reactive, UI, SLDC & Transmission Charges) | 1.60 | 0.59 | 1.46 | 2.43 | 2.65 |
| **Total** | **116.35** | **168.54** | **231.24** | **260.45** | **273.82** |

## 5.6 Capital expenditure, capitalization and funding of capex

### Petitioner's submission

MUPL has submitted that the availability of qualitative and reliable power to the unit holders would be the most important element for successful development of Mundra SEZ. The investors prefer to set up their continuance process industry in MPSEZ area, if they get uninterrupted qualitative power supply. In view of this, MUPL has planned to establish state of art distribution network along with build-in redundancies for ensuring uninterrupted quality power to the unit holders in Mundra SEZ. The MUPL has also considered network automation for real time monitoring and operation of various equipment from Central Control Room (CCR). The coverage of network automation would be from end to end interface points between take off to delivery points. The MUPL has also considered installation of firefighting system on Power Transformers as per CEA Regulations, 2010, which are installed prior to the notification of this regulation.

The MUPL has considered following assumptions for the projection of CAPEX for 3rd control period.

- The outdoor type air insulated sub-station (AIS) has been considered for EHV S/s of 220 KV & 66 KV level.
- The hybrid i.e. combination of overhead line and underground cable has been considered for EHV Network above 66 KV level.
- The indoor type sub-station has been considered for HV Sub-station of 33 KV & 11 KV level.
- The underground cables have been considered for HV Network and LV Network.
- The EHV S/s, EHV Network and HV S/s shall be ready to serve infrastructure to cater power supply in SEZ area.
- The HV/LV Network shall be laid on need basis for last mile connectivity.
- The costs of material and services have been considered as per existing rates (i.e. without any taxes and duties), no escalation factor has been considered.
- The CAPEX is proposed to be funded with a debt equity ratio of 70:30

The MUPL has planned to undertake capital investments for development of power distribution infrastructure to meet power requirement of its consumers. The MUPL submits year wise CAPEX Roll out plan with detailed explanation as under.

**<u>2016-17</u>**

The MUPL has projected addition of few retail consumers during FY 2016-17 and it is expected that consumer base would reach to 60 nos. with arithmetic sum of contracted demand as 73.339 MVA. The MUPL has mainly considered addition of EHV, HV and LV network for last mile connectivity to the new consumers. The MUPL has considered pilot project of Self-Healing Grid system associated with HV Network, which will improve reliability index of HV Network. The system eliminates manual intervention to find out faulty section and its isolation. Accordingly, MUPL has considered CAPEX of Rs. 5.86 Crore for FY 2016-17.

**<u>2017-18</u>**

The MUPL has projected addition of few retail consumers during FY 2017-18 and it is expected that consumer base would reach to 70 nos. with arithmetic sum of contracted demand as 94.151 MVA. The MUPL has considered installation of Solar Power Generation on rooftop of his EHV Sub-stations. The generated solar energy will be accounted for the Renewable Power Obligation (RPO). The MUPL has considered Central Control Room (CCR) for real time monitoring and remote operation of complete electrical network of license area. The MUPL has considered Self-Healing Grid system associated with remaining HV Network, which will improve reliability index of HV Network. The system eliminates manual intervention to find out faulty section and its isolation. The MUPL has considered addition of EHV, HV and LV network for last mile connectivity to the new consumers. Accordingly, MUPL has considered CAPEX of Rs. 10.49 Crore for FY 2017-18.

**2018-19**

The MUPL has projected addition of few retail consumers during FY 2018-19 and it is expected that consumer base would reach to 76 nos. with arithmetic sum of contracted demand as 119.451 MVA. The MUPL has considered addition of 66 KV Bays and 66 KV/33 KV Power Transformers at 66 KV South Basin GIS. The MUPL has considered 66 KV LNG GIS for providing power connectivity to LNG terminal. The MUPL has considered augmentation of 66 kV Ring Network between MRSs – MITAP S/s – MPT S/s – South Basin GIS – LNG GIS. The MUPL has considered addition of power transformer along-with addition of necessary EHV Bays and equipment at 220 kV EHV S/s to maintain (N-1) transformation redundancy. The MUPL has considered addition of EHV, HV and LV network for last mile connectivity to the new consumers. Accordingly, MUPL has considered CAPEX of Rs. 45.35 Crore for FY 2018-19.

**2019-20**

The MUPL has projected addition of few retail consumers during FY 2019-20 and it is expected that consumer base would reach to 78 nos. with arithmetic sum of contracted demand as 137.546 MVA. The MUPL has planned development of EHV infrastructure for developing land parcel of 1856 hectares and therefore, considered 66 KV / 33 kV GIS between existing MRS/s and MITAP S/s along with 66 KV D/C TL on multi-circuit tower between MRS/s & proposed 66 kV / 33 kV GIS.

The MUPL has considered 33 kV / 11 kV S/s between proposed 66 kV / 33 kV GIS and MITAP S/s along with 33 kV underground cable connectivity between proposed 66 kV / 33 kV GIS and 33 kV / 11 kV S/s. The MUPL has considered addition of EHV, HV and LV network for last mile connectivity to the new consumers. Accordingly, MUPL has considered CAPEX of Rs 31.78 Crore for FY 2019-20.

**2020-21**

The MUPL has considered 33 kV / 11 kV S/s between proposed 66 kV / 33 kV GIS and MRS/s along with 33 kV underground cable connectivity between proposed 66 kV / 33 kV GIS and 33 kV / 11 kV S/s. The MUPL has considered addition of EHV, HV and LV network for last mile connectivity to upcoming consumer. Accordingly, MUPL has considered CAPEX of Rs 7.18 Crore for FY 2020-21.

Based on above the summarized statement of proposed capital expenditure during 3rd control period from 2016-17 to 2020-21 is as shown in below table:

**Table 5-13: CAPEX roll-out plan submitted by MUPL**

**(Rs. Crore)**

| Project category | Project title | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|---|
| HT/ LT Network | Power Connectivity & common Network for consumers | 4.22 | 7.83 | | 2.34 | 2.34 |
| EHV S/S | 66/33 KV Substation and 66KV bay extension | 1.64 | 1.59 | 41.66 | 15.73 | |
| Generation | Roof Top solar system | | 1.07 | | | |
| EHV Network | 66KV Transmission Lines | | | 3.69 | 8.87 | |
| HT S/S | 33/11 KV Substation | | | | 4.84 | 4.84 |
| **TOTAL** | | **5.86** | **10.49** | **45.35** | **31.78** | **7.18** |

MUPL has submitted that supply area is not mature enough to supply power to upcoming customers through existing infrastructure in Mundra SEZ, which is spread over in an area of 8481.2784 hectares. Hence, the proposed capital investments are necessary for ensuring reliable and quality power availability to its customers in the license area.

Considering the above, MUPL has worked out the funding of capex in terms of normative debt and normative equity addition as follows:

**Table 5-14: Capex, capitalization and funding of capex projected by MUPL for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Capital expenditure | 5.86 | 10.49 | 45.35 | 31.78 | 7.18 |
| Capitalization | 5.86 | 10.49 | 45.35 | 31.78 | 7.18 |

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Less: SLC from consumers | 12.12 | 7.41 | 43.21 | 5.30 | 0.07 |
| Balance capitalization, of which: | 0.00 | 3.08 | 2.14 | 26.48 | 7.11 |
| Normative debt addition (70%) | 0.00 | 2.16 | 1.50 | 18.54 | 4.98 |
| Normative equity addition (30%) | 0.00 | 0.92 | 0.64 | 7.94 | 2.13 |

### Commission's analysis

With regards to capitalization, MUPL, in a written submission to the Commission, clarified that it proposes to capitalize the entire capex within the same year. The Commission has analysed historical trend in actual capitalization achieved by MUPL as against what it had proposed during the 2nd MYT control period.

**Table 5-15: Actual capitalization against proposed capex for 2nd control period**

**(Rs. Crore)**

| Particulars | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|---|---|---|---|---|---|
| Proposed capex* | 33.36 | 33.45 | 26.63 | 24.02 | 64.98 |
| Actual capitalization | 25.16 | 9.65 | 1.23 | 2.79 | 1.37 |

** For FY 2011-12 to FY 2013-14, the figures are as per petition in case no. 1070 of 2011 (MYT 11-12 to 15-16). For FY 2014-15 and FY 2015-16, the figures are as per petition in case no. 1342 of 2013 (Mid Term Review for MYT 11-12 to 15-16).*

Based on the above, it is observed that MUPL has been able to **capitalize only 22% of the capital expenditure** proposed during the 2nd control period. In order to reduce burden caused due to front loading of capex on consumers, the Commission decides to approve 22% of the capex proposed by MUPL as capitalization. The actual capitalization incurred by MUPL will be considered during the truing up exercise of respective years. The Commission would also like to state that even though it has approved a lower capitalization, it approves the entire capex as proposed by MUPL.

Accordingly, the Commission approves the capex, capitalization and funding of capex as shown below. The SLC from consumers has been reduced in the same proportion as the extent of reduction in capitalization, with respect to the value submitted by MUPL.

**Table 5-16: Capex, capitalization and funding of capex approved by Commission for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Capital expenditure | 5.86 | 10.49 | 45.35 | 31.78 | 7.18 |
| Capitalization | 1.29 | 2.31 | 9.99 | 7.00 | 1.58 |
| Less: SLC from consumers | 2.67 | 1.63 | 9.52 | 1.17 | 0.01 |
| Balance capitalization, of which: | 0.00 | 0.68 | 0.47 | 5.83 | 1.57 |
| Normative debt addition (70%) | 0.00 | 0.48 | 0.33 | 4.08 | 1.10 |
| Normative equity addition (30%) | 0.00 | 0.20 | 0.14 | 1.75 | 0.47 |

## 5.7 Operations and Maintenance (O&M) Expenses

### Petitioner's submission

MUPL has derived O&M Expenses on the average of actual Operation & Maintenance expenses for the three (3) years ending 31.03.2015 as per GERC (MYT) Regulation, 2016. It has submitted that it has considered this average as O&M Expenses for the financial year ended 31.03.2014 and escalated year on year at the escalation factor of 5.72% to arrive at O&M Expenses for the 3rd control period up to FY 2020-21 as per GERC (MYT) Regulations, 2016.

**Table 5-17: O&M expenses projected by MUPL for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| O&M expenses | 9.07 | 9.59 | 10.14 | 10.72 | 11.33 |

### Commission's analysis

The Commission has verified the trued up O&M expenses for FY 2012-13, FY 2013-14 and FY 2014-15 and found Petitioner's submission to be appropriate. As per the methodology specified in the GERC (MYT) Regulations, 2016 the Commission has worked out the O&M expenses and accordingly approves the following O&M expenses for the control period:

**Table 5-18: O&M expenses approved by Commission for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| O&M expenses | 9.07 | 9.59 | 10.14 | 10.72 | 11.33 |

## 5.8 Depreciation

### Petitioner's submission

MUPL has submitted that it has computed depreciation on the fixed assets based on Straight Line Method as prescribed in GERC (MYT) Regulations, 2016 using depreciation rates specified in GERC (MYT) Regulations, 2016. Depreciation has been considered on average of opening and closing value of asset based on projected commercial operations of new asset during part of the year as prescribed in GERC (MYT) Regulations, 2016.

**Table 5-19: Depreciation projected by MUPL for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Opening gross block | 87.16 | 93.03 | 103.51 | 148.87 | 180.65 |
| Closing gross block | 93.03 | 103.51 | 148.87 | 180.65 | 187.83 |
| Depreciation | 3.25 | 3.22 | 3.48 | 4.36 | 5.33 |

### Commission's analysis

The Commission has recomputed year-wise depreciation based on the methodology as specified in the GERC (MYT) Regulations, 2016. The Commission has used updated values of gross block year-on-year additions (capitalization) as approved in foregoing analysis. However, the Commission has used the same asset-wise effective depreciation rates as used by MUPL in order to maintain consistency in terms of timing of new asset addition during part of the year.

Accordingly, the Commission approves the depreciation for the control period as follows:

**Table 5-20: Depreciation approved by Commission for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Opening gross block | 87.16 | 88.46 | 90.77 | 100.76 | 107.76 |
| Closing gross block | 88.46 | 90.77 | 100.76 | 107.76 | 109.34 |
| Depreciation | 3.33 | 3.45 | 3.84 | 3.88 | 4.12 |

## 5.9 Interest and finance charges

### Petitioner's submission

MUPL has submitted that it has taken a loan from RBL on 31.03.2015 and except this loan; rest all the capital expenditure incurred has been funded through its own resources i.e. through equity infusion and through consumer contributions. It has considered normative debt addition as discussed in the preceding section on capitalization. Further, MUPL has considered weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of the year applicable to Distribution Licensee as per GERC (MYT) Regulations, 2016. Accordingly, interest liability at 11.65% based on interest rate of the existing loan of RBL as on 01.04.2016 has been considered.

**Table 5-21: Interest on long term loans and Finance charges projected by MUPL for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Capitalization during the year | 5.86 | 10.49 | 45.35 | 31.78 | 7.18 |
| Less: Service Line Contribution (SLC) from Consumers | 12.12 | 7.41 | 43.21 | 5.30 | 0.07 |
| Balance Capitalization | 0.00 | 3.08 | 2.14 | 26.48 | 7.11 |
| Borrowings @ 70% of balance capitalization | 0.00 | 2.16 | 1.50 | 18.54 | 4.98 |
| Interest expenses | 3.50 | 3.25 | 3.07 | 3.78 | 4.59 |
| Finance charges | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| **Interest and Finance Charges** | **3.62** | **3.37** | **3.19** | **3.90** | **4.71** |

**Commission's analysis**

The Commission has reworked the interest on LT loans and finance charges based on revised approvals made in preceding sections. The Commission has considered the opening balance of normative loans for FY 2016-17 based on truing up of FY 2015-16 done in this order. The normative loan addition is derived as discussed in the preceding section on capitalization and funding of capex. The repayment of normative loan has been equated to depreciation which has been approved in the preceding section of this order. Based on the foregoing analysis, the Commission has computed the opening, closing and average balance of normative loan during the control period.

The Commission has also reviewed the weighted average interest rate of 11.65% as submitted by MUPL. The Commission observes that based on the actual loans details submitted by MUPL for FY 2015-16 and cross checked with audited accounts for the year, the loan existing as on 31st March, 2016 is only RBL and the interest rate is 11.65%. Thus, the Commission accepts the interest rate submitted by MUPL for computing the ARR for the control period. **However, the Commission feels that there is a scope for reducing the interest rate further considering the existing scenario of interest rates in the country and accordingly pass on the benefit to consumers. In the FY 2017-18, MUPL should attempt to refinance the existing loan and submit a report in this regard within 3 months. Accordingly, a directive in this regard has been provided.**

Accordingly, the Commission has computed the Interest and Finance charges as shown below.

**Table 5-22: Interest on long term loans and Finance charges approved by Commission for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Opening balance of normative loans | 31.69 | 28.35 | 25.38 | 21.87 | 22.07 |
| Less: Reduction of Normative Loan due to retirement or replacement of assets | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Addition of Normative Loan due to capitalization during the year | 0.00 | 0.48 | 0.33 | 4.08 | 1.10 |
| Repayment of Normative loan during the year | 3.33 | 3.45 | 3.84 | 3.88 | 4.12 |

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Closing Balance of Normative Loan | 28.35 | 25.38 | 21.87 | 22.07 | 19.05 |
| **Average Balance of Normative Loan** | **30.02** | **26.87** | **23.63** | **21.97** | **20.56** |
| Weighted average Rate of Interest on actual Loans (%) | 11.65% | 11.65% | 11.65% | 11.65% | 11.65% |
| **Interest Expenses** | **3.50** | **3.13** | **2.75** | **2.56** | **2.40** |
| Bank & finance charges | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| **Total interest and finance charges** | **3.62** | **3.25** | **2.87** | **2.68** | **2.51** |

## 5.10 Interest on Security Deposit

### Petitioner's submission

MUPL has submitted that the consumer whose amount of security exceeds Rs. 25 Lakh, at his option, furnish the security deposit in the form of irrevocable bank guarantee initially valid for a period of 2 years as per GERC (Security Deposit) (Second Amendment) Regulation 2015. MUPL has made the projections about interest payable on security deposit, considering only those customers whose amount of security would have been less than Rs. 25 Lakh. It has further considered bank rate of 7.75% as on 01.04.2016 as per RBI circular no. RBI/2015-16/194 dated 29.09.2015 for calculation of payable interest on security during 3rd control period i.e. FY 2016-17 to FY 2020-21.

**Table 5-23: Interest on Security Deposit projected by MUPL for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Consumer deposits | 2.43 | 2.05 | 2.39 | 2.54 | 2.55 |
| Interest cost | 0.19 | 0.16 | 0.19 | 0.20 | 0.23 |

### Commission's analysis

The Commission has reviewed and accepted MUPL's submission regarding the average level of consumer deposits during each year of the control period. Further, the bank rate of 7.75% existing as on 01 April 2016 has been considered by the

Commission. There is a calculation mistake in last year of the control period as submitted by MUPL which has been corrected by the Commission.

**Table 5-24: Interest on Security Deposit approved by Commission for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Security deposits | 2.43 | 2.05 | 2.39 | 2.54 | 2.55 |
| Interest rate (%) | 7.75% | 7.75% | 7.75% | 7.75% | 7.75% |
| **Interest on security deposits** | **0.19** | **0.16** | **0.19** | **0.20** | **0.20** |

## 5.11 Interest on Working capital

### Petitioner's submission

MUPL has submitted that the interest on working capital has been worked out as per the provisions of GERC (MYT) Regulations, 2016. The following have been considered for determining bases for working capital in a year:

- Operation and maintenance expenses for one month, plus Maintenance spares @ 1% of GFA, plus Receivables equivalent to one month of the expected revenue, minus
- Amount, if any, held as security deposits against bill payment

The interest on working capital has been computed at the rate of 11.8% per annum considering SBI base rate (SBBR) as on 01.04.2016 plus 250 basis points as per GERC (MYT) Regulations, 2016. The interest on working capital for 3rd control period has been detailed below:

**Table 5-25: Interest on Working capital projected by MUPL for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| **Computation of Working Capital** | | | | | |
| O&M expenses | 0.76 | 0.80 | 0.84 | 0.89 | 0.94 |
| Maintenance Spares | 0.87 | 0.93 | 1.04 | 1.49 | 1.81 |
| Receivables | 11.23 | 16.70 | 23.29 | 26.56 | 27.36 |
| **Working Capital requirement** | **12.86** | **18.43** | **25.17** | **28.94** | **30.11** |

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| **Less:** | | | | | |
| Amount held as security deposit from Distribution System Users | 2.43 | 2.05 | 2.39 | 2.54 | 2.55 |
| **Total Working Capital** | **10.43** | **16.38** | **22.79** | **26.39** | **27.56** |
| | | | | | |
| **Computation of working capital interest** | | | | | |
| Interest Rate (%) | 11.80% | 11.80% | 11.80% | 11.80% | 11.80% |
| **Interest on Working Capital** | **1.23** | **1.93** | **2.69** | **3.11** | **3.25** |

### Commission's analysis

The Commission has recomputed the components of working capital, in line with the methodology as specified in the GERC (MYT) Regulations, 2016 using the component as approved in preceding sections of this order. Further, the interest rate on working capital has been considered as 11.7% per annum which is the 1 year SBI MCLR on 1st April, 2016 plus 250 basis points as per GERC (MYT) (First Amendment) Regulations, 2016.

**Table 5-26: Interest on Working capital approved by Commission for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| **Computation of Working Capital** | | | | | |
| O&M expenses (1 month) | 0.76 | 0.80 | 0.84 | 0.89 | 0.94 |
| Maintenance Spares (1% of GFA) | 0.87 | 0.88 | 0.91 | 1.01 | 1.08 |
| Receivables (1 month of revenue at existing tariffs) | 11.23 | 16.70 | 23.29 | 26.56 | 27.36 |
| **Working Capital requirement** | **12.86** | **18.39** | **25.05** | **28.46** | **29.38** |
| **Less:** | | | | | |
| Amount held as security deposit from Distribution System Users | 2.43 | 2.05 | 2.39 | 2.54 | 2.55 |
| **Total Working Capital** | **10.43** | **16.33** | **22.66** | **25.91** | **26.83** |

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| | | | | | |
| **Computation of working capital interest** | | | | | |
| Interest Rate (%) | 11.70% | 11.70% | 11.70% | 11.70% | 11.70% |
| **Interest on Working Capital** | **1.22** | **1.91** | **2.65** | **3.03** | **3.14** |

## 5.12 Return on equity

### Petitioner's submission

MUPL has considered projected paid up equity capital with 70:30 debt equity ratio on the assets put up to us as per GERC (MYT) Regulations, 2016. It has considered Return on Equity on the amount of equity capital for the assets put to use at the commencement of each financial year and on 50% of equity capital portion of the projected net capital cost of the assets put in use during the financial year as per GERC (MYT) Regulations, 2016. MUPL has considered a regulated return of 14% as per GERC (MYT) Regulations, 2016. The working of equity base and the regulated return on the equity have been detailed below:

**Table 5-27: Return on Equity projected by MUPL for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Opening Equity | 20.95 | 20.95 | 21.87 | 22.51 | 30.46 |
| Normative Equity addition | 0.00 | 0.92 | 0.64 | 7.94 | 2.13 |
| Reduction in Equity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 20.95 | 21.87 | 22.51 | 30.46 | 32.59 |
| | | | | | |
| Return on opening equity | 2.93 | 2.93 | 3.06 | 3.15 | 4.26 |
| Return on equity addition | 0.00 | 0.06 | 0.04 | 0.56 | 0.15 |
| **Total Return on Equity** | **2.93** | **3.00** | **3.11** | **3.71** | **4.41** |

### Commission's analysis

The Commission has reworked the components of equity base considering approvals made in preceding sections and computed the return on equity as described below:

**Table 5-28: Return on Equity approved by Commission for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Opening Equity | 20.95 | 20.95 | 21.16 | 21.30 | 23.05 |
| Normative Equity addition | 0.00 | 0.20 | 0.14 | 1.75 | 0.47 |
| Reduction in Equity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 20.95 | 21.16 | 21.30 | 23.05 | 23.52 |
| | | | | | |
| Return on opening equity | 2.93 | 2.93 | 2.96 | 2.98 | 3.23 |
| Return on equity addition | 0.00 | 0.01 | 0.01 | 0.12 | 0.03 |
| **Total Return on Equity** | **2.93** | **2.95** | **2.97** | **3.10** | **3.26** |

## 5.13 Contingency reserve

### Petitioner's submission

MUPL has submitted that it has made an appropriation to the Contingency Reserves @ 0.5% of the original cost of fixed assets at the beginning of the year, for each year of the 3rd control period from FY 2016-17 to FY 2020-21. The amount of contingency reserves projected for the control period is as per table below:

**Table 5-29: Contribution to contingency reserve projected by MUPL for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Contribution to contingency reserve | 0.44 | 0.47 | 0.52 | 0.74 | 0.90 |

### Commission's analysis

The Commission has reviewed and analysed historical trend in actual contribution made by MUPL towards this reserve. It is observed that despite the Commission having approved such contribution during each year of the previous control period, MUPL has not made any actual contribution yet.

**Table 5-30: Historical trend in contribution to contingency reserve: approved v/s actual**

**(Rs. Crore)**

| Particulars | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|---|---|---|---|---|---|
| Contribution approved in MYT 2011 | 0.24 | 0.29 | 0.35 | 0.41 | 0.50 |
| Contribution approved in MTR 2014 | - | - | - | 0.54 | 0.63 |
| Actual contribution made by MUPL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

The Commission would like to avoid any unnecessary front loading of charges on consumers by such practice. Hence the Commission does not approve any contribution to contingency reserve as of now. Any actual contribution made by MUPL shall be considered during the truing up exercise.

## 5.14 Income tax

MUPL has not considered any amount under income tax for the control period. Accordingly, the Commission also is not considering any amount under income tax for the control period.

## 5.15 Non-Tariff Income

### Petitioner's submission

MUPL has estimated amount of non-tariff income considering meter rent and interest income from contingency reserves with interest rate @ 9.30% in accordance with GERC (MYT) Regulation 2016. The Non-Tariff income worked out for the 3rd control period is as under:

**Table 5-31: Non-tariff income projected by MUPL for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Non-tariff income | 0.44 | 0.09 | 0.10 | 0.12 | 0.14 |

### Commission's analysis

The Commission observes that MUPL's non-tariff income comprises of the following three items. The income from investments includes interest income on contingency reserve, the contribution to which the Commission has not allowed in this order.

**Table 5-32: Breakup of non-tariff income projected by MUPL for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Income from investments | 0.38 | 0.04 | 0.05 | 0.07 | 0.08 |
| Meter Rent | 0.03 | 0.04 | 0.05 | 0.05 | 0.06 |
| Delay Payment Charges | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Non-tariff income** | **0.44** | **0.09** | **0.10** | **0.12** | **0.14** |

The Commission notes that the actual non-tariff income earned by MUPL in FY 2015-16 includes the following components:

**Table 5-33: Breakup of non-tariff income for FY 2015-16**

**(Rs. Crore)**

| Particulars | Value |
|---|---|
| Income from investments | 0.42 |
| Miscellaneous receipts | 0.01 |
| Liability no longer required written back | 0.06 |
| Meter Rent | 0.03 |
| Delay Payment Charges | 0.04 |
| **Total** | **0.56** |

As non-tariff income cannot be reasonably forecasted, the Commission approves the non-tariff income for control period at the same value as for FY 2015-16, after deducting one-time items like miscellaneous receipts and liability no longer required written back. Further, as per GERC MYT Regulations, 2016 delay payment charges are no longer part of the non-tariff income.

**Table 5-34: Non-tariff income approved by Commission for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Income from investments | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 |
| Meter Rent | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| **Total** | **0.45** | **0.45** | **0.45** | **0.45** | **0.45** |

## 5.16 Aggregate Revenue Requirement

MUPL has summarized the aggregate revenue requirement (ARR) for the control period as shown below:

**Table 5-35: Summary of ARR projected by MUPL for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Power purchase cost | 116.36 | 178.31 | 254.26 | 291.40 | 307.25 |
| O&M expenses | 9.07 | 9.59 | 10.14 | 10.72 | 11.33 |
| Depreciation | 3.25 | 3.22 | 3.48 | 4.36 | 5.33 |
| Interest on LT loans and Finance charges | 3.62 | 3.37 | 3.19 | 3.90 | 4.71 |
| Interest on security deposits | 0.19 | 0.16 | 0.19 | 0.20 | 0.23 |
| Interest on Working capital | 1.23 | 1.93 | 2.69 | 3.11 | 3.25 |
| Return on Equity | 2.93 | 3.00 | 3.11 | 3.71 | 4.41 |
| Contribution to Contingency Reserves | 0.44 | 0.47 | 0.52 | 0.74 | 0.90 |
| Income tax | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Less: Non-tariff income | 0.44 | 0.09 | 0.10 | 0.12 | 0.14 |
| **ARR** | **136.64** | **199.96** | **277.47** | **318.03** | **337.28** |

Considering the foregoing analysis, the Commission approves the ARR for control period as shown below:

**Table 5-36: Summary of ARR approved by Commission for FY 2016-17 to FY 2020-21**

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Power purchase cost | 116.35 | 168.54 | 231.24 | 260.45 | 273.82 |
| O&M expenses | 9.07 | 9.59 | 10.14 | 10.72 | 11.33 |
| Depreciation | 3.33 | 3.45 | 3.84 | 3.88 | 4.12 |
| Interest on LT loans and Finance charges | 3.62 | 3.25 | 2.87 | 2.68 | 2.51 |
| Interest on security deposits | 0.19 | 0.16 | 0.19 | 0.20 | 0.20 |
| Interest on Working capital | 1.22 | 1.91 | 2.65 | 3.03 | 3.14 |
| Return on Equity | 2.93 | 2.95 | 2.97 | 3.10 | 3.26 |
| Contribution to Contingency Reserves | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Income tax | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Less: Non-tariff income | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 |
| **ARR** | **136.26** | **189.39** | **253.45** | **283.61** | **297.94** |

# 6. Determination of Tariff for FY 2017-18

## 6.1 Introduction

This chapter deals with the determination of tariff for the FY 2017-18 for MUPL.

## 6.2 Revenue at existing tariff and gap/ (surplus) analysis

**Petitioner's submission**

MUPL has claimed carrying cost on past revenue gap/ (surplus) and justified the same by stating that recovery of such carrying cost is legitimate expenditure of the distribution companies. The carrying cost is allowed based on the financial principle that whenever the recovery of cost is deferred, the financing of the gap in cash flow arranged by the distribution company from lenders/ promoters/ accruals is to be paid by way of carrying cost.

MUPL has stated that the net eligible revenue surplus up to FY 2014-15 to calculate carrying cost for FY 2015-16 was Rs. 2.34 Crore. The carrying cost of same, works out to be Rs. 0.25 Crore as per the interest rate @ 10.50% considered for working out interest and finance charge of FY 2014-15 in line with the methodology adopted by Commission in tariff order dated 31.03.2016. Thus, the consolidated revenue gap up to FY 2015-16 is Rs. 5.32 Crore.

The carrying costs on consolidated revenue gap of Rs. 5.32 Crore up to FY 2015-16 as per the interest rate @ 11.65% considered for working out interest and finance charge for FY 2015-16 in line with the methodology adopted by Commission in tariff order dated 31.03.2016, works out to be Rs. 1.24 Crore for FY 2016-17 & FY 2017-18.

MUPL has projected revenue for FY 2017-18 at existing tariff of Rs. 200.42 Crore as against an estimated projected ARR of Rs. 199.96 Crore. It has now considered consolidated revenue gap up to FY 2015-16, carrying cost of consolidated surplus of FY 2014-15 for FY 2016-17 and carrying costs of consolidated revenue gap of FY 2015-16 for FY 2016-17 & FY 2017-18 to determine consolidated projected revenue gap up to FY 2017-18. Thus, consolidated projected revenue gap up to FY 2017-18 would be Rs. 5.86 Crore as mentioned in the below table:

**Table 6-1: Revenue gap / (surplus) with existing tariff for FY 2017-18 as submitted by MUPL**

**(Rs. Crore)**

| Particulars | 2017-18 |
|---|---|
| ARR for 2017-18 | 199.96 |
| Add: Consolidated Revenue gap up to 2015-16 | 5.32 |
| Add: Carrying cost on revenue surplus of 2014-15 for 2016-17 | (0.23) |
| Add: Carrying cost on consolidated gap of 2015-16 for 2016-17 & 2017-18 | 1.24 |
| Revenue at existing tariff for 2017-18 | 200.42 |
| **Revenue Gap/ (Surplus) for 2017-18** | **5.86** |

**Commission's analysis**

Regulation 21.6 of the GERC MYT Regulations, 2016 states the following with regards to allowance of carrying cost:

*"c) Carrying cost to be allowed on the amount of Revenue Gap or Revenue Surplus for the period from the date on which such gap/surplus has become due, i.e., from the end of the year for which true-up has been done, till the end of the year in which it is addressed, calculated on simple interest basis at the weighted average State Bank Base Rate for the relevant year, i.e., the year for which Revenue Gap or Revenue Surplus is determined:*

*Provided that carrying cost on the amount of Revenue Gap shall be allowed up to the above limit, subject to prudence check and submission of documentary evidence for having incurred the carrying cost in the years prior to the year in which the revenue gap is addressed;"*

The Commission hereby defers the claim of carrying cost until such time documentary evidence is provided to substantiate incurrence of the cost.

**Table 6-2: Revenue gap / (surplus) with existing tariff for FY 2017-18 as approved by Commission**

**(Rs. Crore)**

| Particulars | 2017-18 |
|---|---|
| ARR for 2017-18 | 189.39 |
| Gap/ (Surplus) for 2015-16 | 5.42 |
| Revenue at existing tariff for 2017-18 | 200.42 |
| **Revenue Gap/ (Surplus) for 2017-18** | **(5.62)** |

# 7. Compliance of Directives

## 7.1 Existing directives

The Commission had issued the following one directive to MUPL in its Tariff Order dated 31.03.2016 in case no. 1556 of 2016.

**Directive No. 1: Energy Audit**

The Energy Audit to be carried out during FY 2015-16 and report to be submitted to the Commission by May 2016.

**Compliance submitted by MUPL**

The report of energy audit is submitted to the Commission vide letter no. MUPL/GERC/Directive/Aug16/09082016.

**Commission's view**

The compliance by MUPL is noted.

## 7.2 New directives

The Commission has proposed the following additional directives to be complied by MUPL.

**Directive No. 1: Interest cost reduction**

MUPL is directed to negotiate with the lenders for reduction in the rate of interest on the borrowings failing which they should replace high cost debt with low cost debt so that the net benefit of interest cost reduction is available to the consumers. MUPL shall furnish quarterly progress report about the action taken and results thereof.

# 8. Fuel and Power Purchase Price Adjustment

## 8.1 Fuel and Power Purchase Price Adjustment

The Commission, vide its order in Case No. 1309/2013 and 1313/2013 dated 29.10.2013, has revised the formula for Fuel Price and Power Purchase Cost Adjustment (FPPPA) as mentioned below:

**FPPPA = [(PPCA-PPCB)]/[100-Loss in %]**

Where,

| | |
|---|---|
| PPCA | 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. |
| PPCB | 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. |
| Loss in % | 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. |

## 8.2 Base Price of Power Purchase (PPCB)

The Commission has approved the total energy requirement and the total power purchase cost for MUPL including fixed cost, variable cost, etc. from the various sources for FY 2017-18 in this order, as given in the table below:

**Table 8-1: Energy requirement and power purchase cost approved by the Commission for FY 2017-18**

| Year | Total energy requirement (MUs) | Approved power purchase cost (Rs Crore) | Power purchase cost per unit (Rs/kWh) |
|---|---|---|---|
| 2017-18 | 407.13 | 168.54 | 4.14 |

As mentioned above the base Power Purchase cost for MUPL is **Rs. 4.14 per kWh** and the base FPPPA charge is NIL.

MUPL 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 above.

Information regarding FPPPA recovery and the FPPPA calculations shall be kept on website of MUPL.

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 end of the relevant quarter.

# 9. Wheeling charges and Cross Subsidy Surcharge

## 9.1 Wheeling charges

Regulation 91 of GERC (MYT) Regulations, 2016, stipulates that the Commission shall specify the wheeling charges of distribution wires business of the distribution licensee in its ARR and Tariff order. Accordingly, the Commission has reviewed submission of MUPL in this regard and accordingly determined the wheeling charges at HT and LT levels, for long term (LT), medium term (MT) and short term (ST) open access consumers.

**Petitioner's submission**

MUPL has allocated the total ARR expenditure of MUPL to wire and retail supply business considering the following allocation matrix:

**Table 9-1: Allocation matrix for segregation to wire and retail supply business submitted by MUPL for FY 2017-18**

**(%)**

| No. | Particulars | Wire business | Retail Supply business |
|---|---|---|---|
| 1 | Power purchase expenses | 0 | 100 |
| 2 | Intra-State Transmission Charges | 0 | 100 |
| 3 | Employee expenses | 60 | 40 |
| 4 | Administration and General expenses | 50 | 50 |
| 5 | Repairs and Maintenance expenses | 90 | 10 |
| 6 | Depreciation | 90 | 10 |
| 7 | Interest on long term loan capital | 90 | 10 |
| 8 | Interest on working capital and consumer security deposit | 10 | 90 |
| 9 | Bad debt written off | 0 | 100 |
| 10 | Income tax | 90 | 10 |
| 11 | Contribution to contingency reserve | 100 | 0 |
| 12 | Return on equity | 90 | 10 |
| 13 | Non-Tariff income | 10 | 90 |

On the basis of the above allocation matrix, MUPL segregated total ARR of MUPL supply area into ARR for wire and retail supply business as shown below:

**a. ARR of wire business: Rs. 15.15 Crore**

**b. ARR of retail supply business: Rs. 184.81 Crore**

The above segregated ARR has been considered to determine the wheeling charges.

Determination of Wheeling Charges

Due to difficulties in segregating costs at HT and LT level, the ARR for wire business, MUPL has proposed to apportion the cost between the HT and LT level in proportion to the ratio of their GFA. The HT level assets were further proposed to be segregated between HT and LT voltage levels as per peak load of the MUPL Supply Area.

It is submitted by MUPL that;

- The GFA of MUPL at the end of FY 2015-16 is Rs. 87.16 Crore. The GFA identified for HT & LT voltage levels are Rs. 86.47 Crore & Rs. 0.70 Crore, respectively. The ratio of HT assets to LT assets is 99.20:0.80, which is considered for the apportionment of ARR for the wire business into HT and LT voltage levels.
- Further as the HT level assets cater to the requirement of customers at both HT and LT levels, the ARR for HT is again apportioned between HT and LT voltage based on their ratio of contribution to the peak.
- The system peak demand for MUPL for the year FY 2015-16 was 33.47 MW. In case of MUPL, the contract demand for HT and LT consumers is 43.37 MVA and 1.03 MVA respectively. Assuming that 98% of the contact demand of HT consumers contributes to the system peak demand, the total demand of HT contributing to the system peak is computed as 32.69 MW and the peak demand of LT is 0.78 MW.
- To determine the wheeling charges for the HT & LT voltage levels, the ARR of the respective voltage level is divided by the peak demand of the respective voltage level. Accordingly, the wheeling charge determined has been tabulated below:

**Table 9-2: Wheeling charges for FY 2017-18 as submitted by MUPL**

| Particulars | |
|---|---|
| **First Level Segregation of ARR in Rs. Crore** | |
| HT Voltage | 14.80 |

| Particulars | |
|---|---|
| LT Voltage | 0.35 |
| Total | 15.15 |
| **Second Level Segregation of ARR in Rs. Crore** | |
| HT Voltage | 14.46 |
| LT Voltage | 0.69 |
| Total | 15.15 |
| **Wheeling Charge in Rs/ kW/ month (For LT & MT OA Consumers)** | |
| **HT Voltage** | **368.48** |
| **LT Voltage** | **745.72** |
| **Wheeling Charges in Rs. / kWh (For ST OA Consumers)** | |
| **HT Voltage** | **0.37** |
| **LT Voltage** | **2.30** |

MUPL has further stated that an Open Access consumer will also have to bear the following wheeling losses in kind in addition to the wheeling charges as mentioned above.

**Table 9-3: Wheeling losses of FY 2017-18 as submitted by MUPL**

**(%)**

| Particulars | Wheeling losses |
|---|---|
| HT Category | 4.00% |
| LT Category | 7.00% |

## Commission's analysis

The Commission, in order to compute the wheeling charges and cross subsidy surcharge, has considered the allocation matrix between the wires and retail supply business as per GERC (MYT) Regulations, 2016. The allocation matrix and the basis of allocation of various cost components of the ARR as per GERC (MYT) Regulations, 2016 are shown below:

**Table 9-4: Allocation matrix for segregation to wire and retail supply business as per GERC (MYT) Regulations, 2016**

**(%)**

| No. | Particulars | Wire business | Retail Supply business |
|---|---|---|---|
| 1 | Power purchase expenses | 0 | 100 |
| 2 | Intra-State Transmission Charges | 0 | 100 |
| 3 | Employee expenses | 60 | 40 |
| 4 | Administration and General expenses | 50 | 50 |
| 5 | Repairs and Maintenance expenses | 90 | 10 |
| 6 | Depreciation | 90 | 10 |
| 7 | Interest on long term loan capital | 90 | 10 |
| 8 | Interest on working capital and consumer security deposit | 10 | 90 |
| 9 | Bad debt written off | 0 | 100 |
| 10 | Income tax | 90 | 10 |
| 11 | Contribution to contingency reserve | 100 | 0 |
| 12 | Return on equity | 90 | 10 |
| 13 | Non-Tariff income | 10 | 90 |

Based on the above allocation, the approved ARR for wires business and retail supply business are computed as shown below.

**Table 9-5: Segregation between wires and retail supply business ARR as approved by the Commission for FY 2017-18**

**(Rs. Crore)**

| No. | Particulars | Total ARR | Wires ARR | Retail supply ARR |
|---|---|---|---|---|
| 1 | Power purchase cost | 168.54 | 0.00 | 168.54 |
| 2 | Employee expenses | 3.27 | 1.96 | 1.31 |
| 3 | R&M expenses | 1.84 | 1.65 | 0.18 |
| 4 | A&G expenses | 4.48 | 2.24 | 2.24 |
| 5 | Depreciation | 3.45 | 3.10 | 0.34 |
| 6 | Interest on LT loans and Finance charges | 3.25 | 2.92 | 0.32 |
| 7 | Interest on security deposits | 0.16 | 0.02 | 0.14 |
| 8 | Interest on Working capital | 1.91 | 0.19 | 1.72 |

| No. | Particulars | Total ARR | Wires ARR | Retail supply ARR |
|---|---|---|---|---|
| 9 | Return on Equity | 2.95 | 2.65 | 0.29 |
| 10 | Contribution to Contingency Reserves | 0.00 | 0.00 | 0.00 |
| 11 | Income tax | 0.00 | 0.00 | 0.00 |
| 12 | Less: Non-tariff income | 0.45 | 0.04 | 0.40 |
| **13** | **ARR** | **189.39** | **14.70** | **174.70** |

The above allocations of ARR are used for determination of wheeling charges and cross subsidy surcharge for FY 2017-18.

The Commission considered the proposal of MUPL for apportionment of ARR between HT and LT voltage level, which is also in tune with the judgement of the APTEL in Appeal no 32 of 2012. The Commission has observed that MUPL has used contract demand and peak demand figures of FY 2015-16 for computing the wheeling charges which the Commission has now corrected to FY 2017-18. Based on the above, the wheeling charges in cash are approved as given in the table below:

**Table 9-6: Wheeling charges for FY 2017-18 as approved by the Commission**

| Particulars | Wheeling charge |
|---|---|
| **First Level Segregation of ARR in Rs. Crore** | |
| HT Voltage | 14.53 |
| LT Voltage | 0.17 |
| Total | 14.70 |
| **Second Level Segregation of ARR in Rs. Crore** | |
| HT Voltage | 14.37 |
| LT Voltage | 0.33 |
| Total | 14.70 |
| **Wheeling Charge in Rs/ kW/ month (For LT & MT OA Consumers)*** | |
| **HT Voltage** | **231.41** |
| **LT Voltage** | **465.46** |
| **Wheeling Charges in Rs. / kWh (For ST OA Consumers)** | |
| **HT Voltage** | **0.37** |
| **LT Voltage** | **1.09** |

** The Commission has used the system peak demand of 52.33 MW for FY 2017-18 as submitted by MUPL. This has been further allocated amongst HT and LT categories in proportion of the category-wise actual recorded demand (in kVA, for FY 2017-18) furnished by MUPL in Form 10 A of its tariff petition.*

The Open Access consumer will also have to bear the following losses in addition to the wheeling charges.

**Table 9-7: Wheeling losses of FY 2017-18 as approved by the Commission**

**(%)**

| Particulars | Wheeling losses |
|---|---|
| HT Category | 4.00% |
| LT Category | 7.00% |

## 9.2 Cross Subsidy Surcharge

**Petitioner's submission**

MUPL has submitted that it has computed the cross subsidy surcharge based on the formula used by the Commission in its order dated 31.03.2016, as shown below:

**S = T- {C / (1 - L/100) + D}**

Where:

S is the Surcharge

T is the Tariff payable by the relevant category of consumers

C is the weighted average power purchase cost of top 5% at the margin excluding liquid fuel based generation and renewable power.

L is the system loss for the applicable voltage level, express as a percentage

D is the wheeling loss

The cross subsidy charges based on the above formula is worked out as shown in the table below:

**Table 9-8: Cross subsidy surcharge submitted by MUPL for FY 2017-18**

**(Rs./kWh)**

| No. | Particulars | HT Category |
|---|---|---|
| 1 | T | 5.16 |
| 2 | C | 4.37 |

| No. | Particulars | HT Category |
|---|---|---|
| 3 | D | 0.37 |
| 4 | L (%) | 4.00% |
| **5** | **S** | **0.23** |

### Commission's analysis

The APTEL in its judgement on the issue of formula for calculation of Cross-subsidy has endorsed the use of the formula depicted in the Tariff Policy. The Central Government has issued the National Tariff Policy, 2016. According to this policy, the formula for Cross Subsidy Surcharge is as under:

$S = T – [C / (1 - L/100) + D + R]$

Where,

S is the surcharge

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 9-9: Cross subsidy surcharge approved by the Commission for FY 2017-18**

**(Rs./kWh)**

| No. | Particulars | HT Category |
|---|---|---|
| 1 | T | 5.16 |
| 2 | C | 4.14 |
| 3 | D | 0.37 |
| 4 | L (%) | 4.00% |
| **5** | **S** | **0.47** |

# 10. Tariff Philosophy and Tariff proposals

## 10.1 Introduction

This chapter discusses MUPL's tariff proposal and changes suggested in tariff structure and provides the Commission's final decision on the same.

## 10.2 MUPL's tariff proposals and changes in tariff structure

MUPL has proposed to recover the projected revenue gap of Rs. 5.86 Crore for FY 2017-18 through projected sales of 389.14 MUs during FY 2017-18 and therefore, has proposed to increase energy charges of each tariff category by 15 Paise/ unit. This proposal, according to MUPL, will increase revenue by Rs. 5.86 Crore.

Further, MUPL has submitted that as per existing tariff schedule, Fixed charges for HTMD-1 category customers having contract demand upto 500 KVA and above 500 KVA are 75 paise/unit and 110 paise/unit respectively. Whereas, the excess demand charges for the aforesaid customers is same i.e. 150 paise/unit. Hence, Petitioner is proposing to decrease the excess demand charges for HTMD-1 category customers having contract demand up to 500 KVA by 25 Paise/unit to bring parity. This proposed modification in the tariff schedule may not have any significant impact on revenue.

## 10.3 Commission's analysis

As discussed in the preceding section, the Commission has decided not to change the existing tariffs. However, the Commission accepts MUPL's proposal regarding excess demand charges on the grounds that these are necessary to infuse discipline amongst consumers but at the same time need to be set at a level which ensures parity amongst customers having different demand sizes.

# COMMISSION'S ORDER

The Commission approves the Aggregate Revenue Requirement (ARR) for MPSEZ Utilities Pvt. Ltd. (MUPL) for the control period FY 2016-17 to FY 2020-21, as shown in the table below:

**(Rs. Crore)**

| Particulars | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|---|---|---|---|---|---|
| Power purchase cost | 116.35 | 168.54 | 231.24 | 260.45 | 273.82 |
| O&M expenses | 9.07 | 9.59 | 10.14 | 10.72 | 11.33 |
| Depreciation | 3.33 | 3.45 | 3.84 | 3.88 | 4.12 |
| Interest on LT loans and Finance charges | 3.62 | 3.25 | 2.87 | 2.68 | 2.51 |
| Interest on security deposits | 0.19 | 0.16 | 0.19 | 0.20 | 0.20 |
| Interest on Working capital | 1.22 | 1.91 | 2.65 | 3.03 | 3.14 |
| Return on Equity | 2.93 | 2.95 | 2.97 | 3.10 | 3.26 |
| Contribution to Contingency Reserves | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Income tax | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Less: Non-tariff income | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 |
| **ARR** | **136.26** | **189.39** | **253.45** | **283.61** | **297.94** |

The retail supply tariffs for MUPL for FY 2017-18 determined by the Commission are annexed to this order. This order shall come into force with effect from 1st April, 2017. The rate shall be applicable for the electricity consumption from 1st April, 2017 onwards.

| Sd/- | Sd/- | Sd/- |
|---|---|---|
| **P. J. THAKKAR**<br>Member | **K. M. SHRINGARPURE**<br>Member | **ANAND KUMAR**<br>Chairman |

Place: Gandhinagar

Date: 31/03/2017

# ANNEXURE: TARIFF SCHEDULE

**Tariff Schedule for Adani Ports and SEZ Ltd License area of MPSEZ Utilities Pvt. Ltd.**

**Effective from 1st April, 2017**

**General Conditions**

1. This tariff schedule is applicable to all the consumers of MUPL in License area of Mundra SEZ.
2. All these tariffs for power supply are applicable to only one point of supply.
3. The meter charges shall be applicable as prescribed under GERC's (Licensee's power to recover expenditure incurred in providing supply and other miscellaneous charges) Regulation, 2005.
4. The energy bills shall be paid by the consumer within 10 days from the date of billing, failing which the consumer shall be liable to pay the delayed payment charges @15% p.a. for the number of days from the due date of bill to the date of payment of bill.
5. 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. The various provisions of the GERC's (Licensee's power to recover expenditure incurred in providing supply and other miscellaneous charges) Regulation, 2005 will continue to apply.
7. The charges specified in the tariff are on monthly basis, MUPL shall adjust the rates according to billing period applicable to consumer.
8. Conversion of Ratings of electrical appliances and equipment 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.
10. The fraction of less than 0.5 shall be rounded to next 0.5. The billing of energy charges will be done on complete one kilo-watt-hour (kWh).

11. The Connected Load for the purpose of billing will be taken as the maximum load connected during the billing period.
12. Contract Demand shall mean the maximum KVA for the supply which MUPL undertakes to provide facilities to the consumer from time to time.
13. For computation of Fixed charges, they will be computed on 85 % of Contact Demand at Unity Power Factor or Actual whichever is higher on monthly basis
14. Maximum Demand in a month means the highest value of average KVA delivered at the point of supply of the consumer during any consecutive 15/30 minutes in the said month.
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. The levy of penal charge is in addition to other rights of MPSEZ Utilities Private Limited under the provisions of the Electricity Act, 2003 and Regulations notified thereunder.
16. 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.
17. The 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.
18. These rates are exclusive of Electricity Duty, Tax on sale of electricity, Customs duty, Taxes and other charges levied / may be levied or such other taxes as may be levied by the Government or other Competent Authorities on bulk / retail supplies from time to time in which are payable by consumers, in addition to the charges levied as per the tariff.
19. 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 MUPL shall be entitled to take any other action deemed necessary and authorized under the Act.
20. 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.

## PART- I

## SUPPLY DELIVERED AT LOW OR MEDIUM VOLTAGE

## (230 VOLTS- SINGLE PHASE, 400 VOLTS- THREE PHASE, 50 HERTZ)

### 1. RATE: Residential

This tariff is applicable to services for lights, fans and domestic appliances for heating, cooling, cooking, cleaning and refrigeration purposes, general load and motive power in residential premises.

#### 1.1. FIXED CHARGE

| | | |
|---|---|---|
| (a) | Single Phase Supply | Rs. 30 per month per installation |
| (b) | Three Phase Supply | Rs. 45 per month per installation |

#### 1.2. ENERGY CHARGE

| | | |
|---|---|---|
| (i) | First 250 units consumed per month | 320 Paise per Unit |
| (ii) | Remaining units consumed per month | 370 Paise per Unit |

#### 1.3. MINIMUM BILL (excluding meter charges)

Payment of fixed charges as specified in 1.1 above.

### 2. RATE: Commercial (Non Demand)

This tariff is applicable to services for lights, fans and appliances for heating, cooling cooking, cleaning and refrigeration purposes, general load and motive power in premises other than those requiring the power supply for the purposes not specified in any other LT categories, up to 6 kVA of connected load.

#### 2.1. FIXED CHARGE

| | |
|---|---|
| Single Phase Supply | Rs. 100 per month per installation |

#### 2.2. ENERGY CHARGE

| | | |
|---|---|---|
| (i) | First 150 units consumed per month | 370 Paise per Unit |
| (ii) | Remaining units consumed per month | 395 Paise per Unit |

**2.3. MINIMUM BILL (excluding meter charges)**

Payment of fixed charges as specified in 2.1 above.

**3. RATE: Commercial (Demand)**

This tariff is applicable to lights, fans and appliances for heating, cooling, cooking, cleaning and refrigeration purposes, general load and motive power in premises other than those requiring the power supply for the purposes not specified in any other LT categories, having connected load of 6 kVA and above.

**3.1. FIXED CHARGE**

A) For Billing Demand up to and including the Contract Demand

| | |
|---|---|
| Computed on 85 % of Contact Demand at u.p.f. or Actual maximum demand at monthly average power factor or six KVA at u.p.f. whichever is higher on monthly basis at 100 % Load Factor | 75 Paise per Unit |

B) For Billing Demand in excess of the Contract Demand

| | |
|---|---|
| Computed on billing demand in excess of Contract Demand on Monthly basis at 100 % Load Factor | 125 Paise per Unit |

NOTE: The Billing Demand shall be highest of the following:

i. Actual Maximum Demand established during the month OR

ii. Eighty – five percent of the Contract Demand OR

iii. Six kVA

**3.2 ENERGY CHARGE**

| | |
|---|---|
| A flat rate of | 270 Paise per Unit |

### 3.3. POWER FACTOR ADJUSTMENT CHARGE

A) Where the average Power Factor during the Billing period exceeds 90%

| | |
|---|---|
| For each 1% improvement in the Power Factor from 90% to 95% | Rebate of 0.15 Paise per Unit |
| For each 1% improvement in the Power Factor above 95% | Rebate of 0.27 Paise per Unit |

B) Where the average Power Factor during the Billing period is below 90%

| | |
|---|---|
| For each 1% decrease in the Power Factor below 90% | Penalty of 3.00 Paise per Unit |

### 3.4. MINIMUM BILL (excluding meter charges)

Payment of fixed charges as specified in 3.1 above.

## 4. RATE: Industrial (Non Demand)

This tariff is applicable up to 6 kVA of connected load in industrial premises (as defined under the Bombay Electricity Duty Act, 1958).

### 4.1. FIXED CHARGE

| | |
|---|---|
| Single Phase Supply | Rs. 100 per Month per installation |

### 4.2. ENERGY CHARGE

| | | |
|---|---|---|
| (i) | First 150 units consumed per month | 345 Paise per Unit |
| (ii) | Remaining units consumed per month | 370 Paise per Unit |

### 4.3. MINIMUM BILL (excluding meter charges)

Payment of fixed charges as specified in 4.1 above.

## 5. RATE: Industrial (Demand)

This tariff is applicable to 6 KVA and above of connected load in industrial premises (as defined under the Bombay Electricity Duty Act, 1958), water works and pumping services operated by Local Authorities.

### 5.1 FIXED CHARGE

A) For Billing Demand up to and including the Contract Demand

| | |
|---|---|
| Computed on 85 % of Contact Demand at u.p.f. or Actual maximum demand at monthly average power factor or six KVA at u.p.f. whichever is higher on monthly basis at 100 % Load Factor | 75 Paise per Unit |

B) For Billing Demand in excess of the Contract Demand

| | |
|---|---|
| Computed on billing demand in excess of Contract Demand on Monthly basis at 100 % Load Factor | 125 Paise per Unit |

NOTE: The Billing Demand shall be highest of the following:

i. Actual Maximum Demand established during the month OR

ii. Eighty – five percent of the Contract Demand OR

iii. Six kVA

### 5.2 ENERGY CHARGE

| | |
|---|---|
| A flat rate of | 270 Paise per Unit |

### 5.3. POWER FACTOR ADJUSTMENT CHARGE

A) Where the average Power Factor during the Billing period exceeds 90%

| | |
|---|---|
| For each 1% improvement in the Power Factor from 90% to 95% | Rebate of 0.15 Paise per Unit |
| For each 1% improvement in the Power Factor above 95% | Rebate of 0.27 Paise per Unit |

B) Where the average Power Factor during the Billing period is below 90%

| | |
|---|---|
| For each 1% decrease in the Power Factor below 90% | Penalty of 3.00 Paise per Unit |

### 5.4. MINIMUM BILL (excluding meter charges)

Payment of fixed charges as specified in 5.1 above.

## 6. RATE: Street Lights

Applicable to lighting systems for illumination of public roads.

### 6.1. ENERGY CHARGE

| | |
|---|---|
| A flat rate of | 320 Paise per Unit |

## 7. RATE: Temporary

This tariff is applicable to installations for temporary requirement of electricity supply. A Consumer not taking supply on regular basis under a proper agreement shall be deemed to be taking supply for temporary period.

### 7.1 FIXED CHARGE

A) For Billing Demand up to and including the Contract Demand

| | |
|---|---|
| Computed on 85 % of Contact Demand at u.p.f. or Actual maximum demand at monthly average power factor whichever is higher on monthly basis at 100 % Load Factor | 75 Paise per Unit |

B) For Billing Demand in excess of the Contract Demand

| | |
|---|---|
| Computed on billing demand in excess of Contract Demand on Monthly basis at 100 % Load Factor | 125 Paise per Unit |

NOTE: The Billing Demand shall be highest of the following:

i. Actual Maximum Demand established during the month OR

ii. Eighty – five percent of the Contract Demand.

### 7.2 ENERGY CHARGE

| | |
|---|---|
| A flat rate of | 345 Paise per unit |

### 7.3 POWER FACTOR ADJUSTMENT CHARGE

A) Where the average Power Factor during the Billing period exceeds 90%

| | |
|---|---|
| For each 1% improvement in the Power Factor from 90% to 95% | Rebate of 0.15 Paise per Unit |
| For each 1% improvement in the Power Factor above 95% | Rebate of 0.27 Paise per Unit |

B) Where the average Power Factor during the Billing period is below 90%

| | |
|---|---|
| For each 1% decrease in the Power Factor below 90% | Penalty of 3.00 Paise per Unit |

### 7.4. MINIMUM BILL (excluding meter charges)

Payment of fixed charges as specified in 7.1 above.

## PART- II

## SUPPLY DELIVERED AT HIGH VOLTAGE

## (11000 VOLTS AND ABOVE - THREE PHASE, 50 HERTZ)

### 8. RATE: HTMD - 1

This tariff is applicable for supply of energy to High Tension consumers contracting for maximum demand of 100 kVA and above for regular power supply and requiring the power supply for the purposes not specified in any other HT categories.

### 8.1 FIXED CHARGE

A) For the Billing Demand of customer having

a. Contract demand up to 500 kVA

| | |
|---|---|
| Computed on 85 % of contract demand at u.p.f or actual maximum demand at monthly average power factor or one hundred KVA at u.p.f. whichever is higher on monthly basis at 100 % Load Factor | 75 Paise per Unit |

b. Contract demand above 500 kVA

| | |
|---|---|
| Computed on 85 % of contract demand at u.p.f or actual maximum demand at monthly average power factor whichever is higher on monthly basis at 100% load factor | 110 Paise per Unit |

B) For Billing Demand in excess of the Contract Demand

a. Contract demand up to 500 kVA

| | |
|---|---|
| Computed on billing demand in excess of Contract Demand on Monthly basis at 100 % Load Factor | 125 Paise per Unit |

b. Contract demand above 500 kVA

| | |
|---|---|
| Computed on billing demand in excess of Contract Demand on Monthly basis at 100 % Load Factor | 150 Paise per Unit |

NOTE: The Billing Demand shall be highest of the following:

i. Actual Maximum Demand established during the month OR

ii. Eighty – five percent of the Contract Demand OR

iii. One hundred kVA.

### 8.2 ENERGY CHARGE

| For entire consumption during the month | |
|---|---|
| up to 500 kVA of the contract demand | 310 Paise per unit |
| Above 500 kVA of the contract demand | 350 Paise per unit |

### 8.3 POWER FACTOR ADJUSTMENT CHARGE

A) Where the average Power Factor during the Billing period exceeds 90%

| | |
|---|---|
| For each 1% improvement in the Power Factor from 90% to 95% | Rebate of 0.15 Paise per Unit |
| For each 1% improvement in the Power Factor above 95% | Rebate of 0.27 Paise per Unit |

B) Where the average Power Factor during the Billing period is below 90%

| | |
|---|---|
| For each 1% decrease in the Power Factor below 90% | Penalty of 3.00 Paise per Unit |

### 8.4 REBATE FOR SUPPLY AT EHV

| Sl. No. | On Energy Charges | Rebate @ |
|---|---|---|
| 1 | If supply is availed at 11 KV | 0.0% |
| 2 | If supply is availed at 33 KV | 1.0% |
| 3 | If supply is availed at 66 KV and above | 2.0% |

### 8.5. MINIMUM BILL (excluding meter charges)

Payment of fixed charges as specified in 8.1 above.

## 9. RATE: HTMD -II

This tariff is Applicable for supply of energy to High Tension consumers contracting for maximum demand of 100 kVA and above 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.

### 9.1 FIXED CHARGE

A) For Billing Demand up to and including the Contract Demand

| | |
|---|---|
| Computed on 85 % of Contact Demand at u.p.f or Actual maximum demand at monthly average power factor whichever is higher on monthly basis or one hundred kVA | 100 Paise per Unit |

B) For Billing Demand in excess of the Contract Demand

| | |
|---|---|
| Computed on billing demand in excess of Contract Demand on Monthly basis at 100 % Load Factor | 150 Paise per Unit |

NOTE: The Billing Demand shall be highest of the following:

i. Actual Maximum Demand established during the month OR

ii. Eighty – five percent of the Contract Demand OR

iii. One hundred kVA

### 9.2 ENERGY CHARGE

| | |
|---|---|
| A flat rate of | 445 Paise per unit |

### 9.3 POWER FACTOR ADJUSTMENT CHARGE

A) Where the average Power Factor during the Billing period exceeds 90%

| | |
|---|---|
| For each 1% improvement in the Power Factor from 90% to 95% | Rebate of 0.15 Paise per Unit |
| For each 1% improvement in the Power Factor above 95% | Rebate of 0.27 Paise per Unit |

B) Where the average Power Factor during the Billing period is below 90%

| | |
|---|---|
| For each 1% decrease in the Power Factor below 90% | Penalty of<br>3.00 Paise per Unit |

### 9.4 REBATE FOR SUPPLY AT EHV

| Sl. No. | On Energy Charges | Rebate @ |
|---|---|---|
| 1 | If supply is availed at 11 KV | 0.0% |
| 2 | If supply is availed at 33 KV | 1.0% |
| 3 | If supply is availed at 66 KV and above | 2.0% |

### 9.5. MINIMUM BILL (excluding meter charges)

Payment of fixed charges as specified in 9.1 above.