**Before the**
**MAHARASHTRA ELECTRICITY REGULATORY COMMISSION**
**World Trade Centre, Centre No. 1, 13th Floor, Cuffe Parade, Mumbai - 400 005**
**Tel. No. : 022 22163964 / 65 / 69, Fax: 022 22163976**
**Email: mercindia@merc.gov.in**
**Website: www.mercindia.org.in / www.merc.gov.in**

**Case No. 195 of 2017**

**In the matter of**
**Mid-Term Review Petition of Maharashtra State Electricity Distribution Company Limited for Truing-up of Aggregate Revenue Requirement (ARR) of FY 2015-16 and FY 2016-17, Provisional Truing-up of ARR of FY 2017-18 and Revised Projections of ARR for FY 2018-19 and FY 2019-20**

**Coram**

**Shri. I. M. Bohari, Member**
**Shri. Mukesh Khullar, Member**

# ORDER

**Date: 12 September, 2018**

Maharashtra State Electricity Distribution Company Limited (MSEDCL or Petitioner), "Prakashgad", Anant Kanekar Marg, Bandra (East), Mumbai has filed its Mid-Term Review Petition on 21 December, 2017 for Truing-up of FY 2015-16 and FY 2016-17, Provisional Truing-up of FY 2017-18, and approval of Revised ARR for FY 2018-19 and FY 2019-20. The Truing-up of FY 2015-16 is under MERC MYT Regulations, 2011, while Truing-up of FY 2016-17, Provisional Truing-up of FY 2017-18, and Revised ARR for FY 2018-19 and FY 2019-20 is being approved under MERC MYT Regulations, 2015.

The Commission in exercise of the power vested under Section 61 and 62 of the Electricity Act, 2003 and all other powers enabling it in this behalf and after taking into consideration the submission made by MSEDCL and in the public consultation process, and all other relevant materials, has approved the Truing-up for FY 2015-16 and FY 2016-17, Provisional Truing-up of FY 2017-18 and Revised ARR for FY 2018-19 and FY 2019-20 in this Order.

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# List of Abbreviations

| Abbreviation | Expansion |
|---|---|
| A&G | Administration and General |
| ABR | Average Billing Rate |
| ABT | Availability Based Tariff |
| ACoS | Average Cost of Supply |
| AFC | Annual Fixed Cost |
| AG | Agriculture |
| AMR | Automated Metering Reading |
| APDRP | Accelerated Power Development and Reforms Programme |
| APPC | Average Power Purchase Cost |
| ARR | Aggregate Revenue Requirement |
| AS | Accounting Standard |
| ASC | Additional Supply Charge |
| AT&C | Aggregate Technical and Commercial |
| ATE/APTEL | Appellate Tribunal for Electricity |
| BEST | Brihan-Mumbai Electric Supply & Transport Undertaking |
| BPL | Below Poverty Line |
| BSC | Base Station Controllers |
| CAG | Comptroller and Auditor General |
| CAGR | Compounded Annual Growth Rate |
| Capex | Capital Expenditures |
| CBA | CBA |
| CEA | Central Electricity Authority |
| CERC | Central Electricity Regulatory Commission |
| CGS | Central Generating Stations |
| CGPL | Coastal Gujarat Power Limited |
| CGRF | Consumer Grievances Redressal Forum |
| CIL | Coal India Ltd. |
| COD | Commercial Operation Date |
| Commission/MERC | Maharashtra Electricity Regulatory Commission |
| COS | Cost of Supply |
| CPI | Consumer Price Index |
| CPP | Captive Power Plant |
| CPPA | Captive Power Producers Association |
| CR | Consumer Representative |
| CSD | Consumer Security Deposit |
| CSS | Cross-subsidy Surcharge |
| CT | Current Transformer |
| CWIP | Capital Work in Progress |
| CUF | Capacity Utilisation Factor |

| Abbreviation | Expansion |
|---|---|
| DA | Dearness Allowance |
| DCL | Distribution Commercial Loss |
| DDUGJY | Deen Dayal Upadhyay Gram Jyoti Yojana |
| DF | Distribution Franchisee |
| DIC | Directorate of Industries and Commerce |
| DPC | Delay Payment Charges |
| DPR | Detailed Project Report |
| DSM | Demand Side Management |
| DTC | Distribution Transformer Centre |
| DTL | Deferred Tax Liability |
| EA2003/Act | Electricity Act, 2003 |
| ED | Electricity Duty |
| EDP | Embedded Display Port |
| EHV | Extra High Voltage |
| ERP | Enterprise Resource Planning |
| FAC | Fuel Adjustment Charge |
| FBSM | Final Balance Settlement Mechanism |
| FSA | Fuel Supply Agreement |
| FY | Financial Year |
| GC | Generation Charge |
| GEC | Gross Energy Consumption |
| GFA | Gross Fixed Assets |
| GFSS | Gaothan Feeder Separation Scheme |
| GOI | Government of India |
| GoM | Government of Maharashtra |
| GSA | Gas Supply Agreement |
| HP | Horse Power |
| HT | High Tension |
| HVDS | High Voltage Distribution System |
| IBSM | Interim Balancing Settlement Mechanism |
| IC | Interim Charge |
| IDC | Interest During Construction |
| IIT | Indian Institute of Technology |
| InSTS | Intra-State Transmission System |
| IoWC | Interest on Working Capital |
| IPDS | Integrated Power Development Scheme |
| IPP | Independent Power Producer |
| IT/ITES | Information Technology/ Information Technology Enabled Services |
| kVA | Kilo-Volt Ampere |
| kVAh | Kilo-Volt Ampere Hour |
| kW | Kilo Watt |

| Abbreviation | Expansion |
|---|---|
| kWh | Kilo Watt Hour / Unit |
| LF | Load Factor |
| LT | Low Tension |
| LV | Low Voltage |
| MGP | Mumbai Grahak Panchayat |
| MIDC | Maharashtra Industrial Development Corporation |
| MIS | Management Information System |
| MoD | Merit Order Desptach |
| MOEF | Ministry of Environment and Forest |
| MOP | Ministry of Power |
| MoU | Memorandum of Understanding |
| MPECS | Mula Pravara Electric Cooperative Society Limited |
| MSEB | Maharashtra State Electricity Board |
| MSEBHCL | Maharashtra State Electricity Board Holding Co. Ltd. |
| MSEDCL | Maharashtra State Electricity Distribution Co. Ltd. |
| MSETCL | Maharashtra State Electricity Transmission Co. Ltd. |
| MSLDC | Maharashtra State Load Despatch Centre |
| MSPGCL | Maharashtra State Power Generation Co. Ltd. |
| MTR | Mid Term Review |
| MU | Million Units |
| MW | Mega Watt |
| MYT | Multi Year Tariff |
| NCDP | New Coal Distribution Policy |
| NLDC | National Load Despatch Centre |
| NPCIL | Nuclear Power Corporation of India Limited |
| NTP | National Tariff Policy |
| NTPC | National Thermal Power Corporation Limited |
| O&M | Operation and Maintenance |
| OA | Open Access |
| Opex | Operational Expenditure |
| P&L | Profit and Loss |
| PD | Permanent Disconnected |
| PF | Power Factor |
| PFC | Power Finance Corporation |
| PGCIL | Power Grid Corporation of India Limited |
| PLF | Plant Load Factor |
| PoC | Point of Connection |
| PPA | Power Purchase Agreement |
| P:SI | Project for System Improvement |
| P:IE | Project for Intensive Electrification |
| PWW | Public Water Works |

| Abbreviation | Expansion |
|---|---|
| PXIL | Power Exchange India Limited |
| R&M | Repair and Maintenance |
| RBI | Reserve Bank of India |
| RE | Renewable Energy |
| REC | Renewable Energy Certificates |
| RECL | Rural Electrification Corporation Ltd. |
| RGGVY | Rajeev Gandhi Grameen Vidyutikaran Yojana |
| RGPPL | Ratnagiri Gas and Power Pvt. Ltd. |
| RInfra | Reliance Infrastructure Limited |
| RLC | Regulatory Liability Charge |
| RLDC | Regional Load Desptach Centre |
| RoE | Return on Equity |
| RPO | Renewable Purchase Obligation |
| RTC | Round The Clock |
| RSD | Reserve Shutdown |
| Rs. | Indian Rupees |
| SBAR | State Bank Advance Rate |
| SBI | State Bank of India |
| SBLC | Stand By Letter of Credit |
| SCADA | Supervisory Control and Data Acquisition |
| SD | Security Deposit |
| SERC | State Electricity Regulatory Commission |
| SEZ | Special Economic Zone |
| SLDC | State Load Despatch Centre |
| SMD | Simultaneous Maximum Demand |
| SOP | Standards of Performance |
| SSP | Sardar Sarovar Project |
| STP | Sewage Treatment Plant |
| STU | State Transmission Utility |
| T&D | Transmission and Distribution |
| TBIA | Thane Belapur Industries Association |
| TC | Transmission Charge |
| ToD | Time-of-Day |
| TOSE | Tax on Sale of Electricity |
| TPC | The Tata Power Company Ltd. |
| TSO | Temporary Supply Others |
| TSR | Temporary Supply Religious |
| TSSIA | Thane Small Scale Industries Association |
| TSU | Transmission System User |
| TTSC | Total Transmission System Cost |
| TVS | Technical Validation Session |

| Abbreviation | Expansion |
|---|---|
| UI | Unscheduled Interchange |
| ULDC | Unified Load Dispatch & Communication |
| UMPP | Ultra Mega Power Projects |
| USO | Universal Service Obligation |
| VIA | Vidharba Industries Association |
| VRS | Voluntary Retirement Scheme |
| V-CoS | Voltage-wise Cost of Supply |
| Wef | With effect from |
| WPI | Wholesale Price Index |
| WRLDC | Western Regional Load Despatch Centre |
| WRPC | Western Region Power Committee |
| y-o-y | Year on Year |

# 1. BACKGROUND AND SALIENT FEATURES OF ORDER

## 1.1. Background

1.1.1. MSEDCL is a Company formed under Government of Maharashtra (GoM) Resolution No. ELA – 1003/P.K.8588/Bhag-2/Urja-5 dated 24 January, 2005 from 6 June, 2005 according to the provisions of Part XIII of the EA, 2003. The provisional Transfer Scheme was notified under Section 131(5) (g) of the EA, 2003 on 6 June, 2005, which resulted in the creation of the following four successor Companies from out of the erstwhile Maharashtra State Electricity Board (MSEB), namely,

a) MSEB Holding Co. Ltd.;
b) Maharashtra State Power Generation Co. Ltd. (MSPGCL);
c) Maharashtra State Electricity Transmission Co. Ltd. (MSETCL); and
d) Maharashtra State Electricity Distribution Co. Ltd.

1.1.2. **MYT Order (**Case No. 48 of 2016**)**: MSEDCL filed its Petition for MYT approval for FY 2014-15, Provisional Truing-up of ARR for FY 2015-16 and Multi-Year Tariff for 3rd Control Period FY 2016-17 to FY 2019-20 on which the Commission passed its Order dated 03 November 2016.

1.1.3. **Multi Year Tariff Regulations, 2015**: On 8 December, 2015, the Commission notified the MYT Regulations, 2015. These are applicable for determination of Tariff from 1 April, 2016 up to 31 March, 2020.

1.1.4. MSEDCL submitted its original Mid-term Review Petition for approval of final true up of ARR for FY 2015-16 and 2016-17, Provisional true-up of ARR for FY 2017-18 and approval for revised forecast of ARR for FY 2018-19 and 2019-20.

1.1.5. On 29 December 2017 the Commission raised preliminary data gaps and sought certain information and subsequently data gaps were raised on 5 January 2018, 12 February 2018 and 27 April 2018. Further, vide notice dated 8$^{th}$ January 2018, MSEDCL served copy of its petition to authorised consumer representatives (ACRs) for their comments, if any.

1.1.6. Commission directed MSEDCL to address the further data gaps and other concerns raised. MSEDCL submitted its replies on 10$^{th}$ January 2018, 30$^{th}$ January 2018, 21$^{st}$ March 2018 and 1$^{st}$ June 2018. Since same was found in Order, MSEDCL was asked to submit the revised petition incorporating replies to data gaps.

1.1.7. The Commission held a meeting on 23 March 2018, to which the Authorised Institutional Consumer Representatives (CRs) were also invited. The list of persons who attended the meeting is at Appendix-1.

## 1.2. Admission of the Petition, and Regulatory Process

1.2.1. On 4 July, 2018, MSEDCL submitted its revised Petition with the following prayers:

1) *"To admit the MTR Petition as per the provisions of the MERC (MYT) Regulations 2015 and consider present Petition for further proceedings before Hon'ble Commission;*
2) *To approve the total recovery of Aggregate Revenue Requirement and revenue gap for FY 2015-16 to FY 2019-20 along with other claims as proposed by MSEDCL;*
3) *To allow the carrying cost on the revenue gap of FY 2015-16 to FY 2019-20;*
4) *To approve mechanism for recovery of computed revenue gap along with carrying cost and Tariff Schedule considering the Tariff Design principles and other suggestions proposed by MSEDCL;*
5) *To approve the AG sales for FY 2014-15 and FY 2015-16 without any disallowances;*
6) *To approve tariffs for individual categories as proposed by MSEDCL;*
7) *To allow the revision in criteria for Billing Demand as proposed by MSEDCL;*
8) *To allow kVAh based billing for HT category consumers;*
9) *To allow separate category for Charging Stations/Centers for Electrical Vehicles with Tariffs as proposed by MSEDCL;*
10) *To allow the creation of New Sub-Categories in HT for New Consumers as proposed by MSEDCL;*
11) *To allow a rebate for incremental consumption of existing HT consumers of selected categories as proposed by MSEDCL;*
12) *To allow to sell energy to the HT consumers in SEZ areas whosoever approach MSEDCL treating them at par with New Consumers in Sr. No. 10 above;*
13) *To consider the incentives/rebates proposed as above as part of ARR;*
14) *To rationalize the incentives and penalties as proposed by MSEDCL;*
15) *To allow the revision in ToD Charges as proposed by MSEDCL;*

16) *To approve Cross Subsidy Surcharge and all such other charges including wheeling charges and wheeling losses for Open Access consumers as proposed for FY 2018-19 to FY 2019-20;*

17) *To approve the Additional Surcharge for all Open Access consumers including those sourcing power from CPPs as proposed for FY 2018-19 to FY 2019-20;*

18) *To allow increase in standby charges for embedded CPP consumers;*

19) *To allow levy of compulsive regulatory provision for standby agreement for SEZ and railways;*

20) *To approve the suggested categorization for different type of activities as proposed by MSEDCL in applicability of tariff;*

21) *To allow recovery of wheeling charges from the consumers who are connected at a higher voltage level than as stipulated in MERC SOP Regulations*

22) *To allow levy of wheeling charges to rooftop system users;*

23) *To approve the schedule of charges as proposed by MSEDCL;*

24) *To approve the capex and capitalization as submitted by MSEDCL;*

25) *To grant any other relief as the Hon'ble Commission may consider appropriate;*

26) *To pass any other order as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice;*

27) *To condone any error/omission and to give opportunity to rectify the same;*

28) *To permit MSEDCL to make further submissions, addition and alteration to this Petition as may be necessary from time to time;"*

1.2.2. The Commission admitted the revised MYT Petition on 4 July 2018. As required under Section 64 of the EA, 2003, MSEDCL issued Public Notices in three English (Indian Express, Hindustan Times and Times of India) and two Marathi (Lokmat and Puniyanagari) daily newspapers on 11 July 2018 inviting suggestions and objections on its Petition. The Petition and Executive Summary (in English and Marathi) were made available for inspection or purchase at MSEDCL's offices. The Petition was also available on MSEDCL's website (www.mahadiscom.in) free of cost in downloadable format. The Executive Summary of the Petition and the Public Notice were also made available on the websites of the Commission (www.mercindia.org.in)/ (www.merc.gov.in) in downloadable format.

1.2.3. The Commission held Public Hearings at Amravati, Nagpur, Aurangabad, Nashik, Pune and Navi Mumbai from 6 August to 16 August 2018 as per the schedule set out in the Table below, at which several Public Representatives, Consumer Representatives, other stakeholders and members of the public were heard. The Commission also received several written suggestions and objections. The list of persons who submitted written suggestions and objections and / or attended the Public Hearings is at Appendix- 3.

**Table 1-1: Schedule of Public Hearings**

| Sr.No. | Venue | Date |
|---|---|---|
| 1 | **Amravati** - Hall No.1, Divisional Commissioner's Office Camp, Amravati | Monday, 06 August, 2018 |
| 2 | **Nagpur** - Vanamati Hall, V.I.P. Road, Dharampeth, Nagpur | Tuesday, 07August, 2018 |
| 3 | **Pune** - Council Hall, Office of the Divisional Commissioner, Pune | Thursday, 09 August, 2018 |
| 4 | **Aurangabad** - Meeting Hall, Office of the Divisional Commissioner, Aurangabad | Saturday,11August, 2018 |
| 5 | **Nashik** - Niyojan Bhavan, Collector's Office Campus, Old Agra Road, Nashik | Monday, 13 August, 2018 |
| 6 | **Navi Mumbai** - Agri Koli Sanskriti Bhavan, Palm Beach Road, Sector 24, Nerul, Navi Mumbai | Thursday, 16 August, 2018 |

1.2.4. The Commission has ensured that the due process contemplated under law was followed at every stage to ensure transparency and public participation. Adequate opportunity was given to all to present their responses. Various suggestions and objections raised on the Petition, both orally at the Public Hearings and in writing, along with MSEDCL's responses and the Commission's Rulings have been summarised in Section 2 of this Order.

### 1.3. Organisation of Order

This Order includes the following Sections:

- **Section 1 -** provides a brief background of the process undertaken by the Commission;
- **Section 2 -** summarises the written and oral suggestions and objections raised. These are followed by the responses of MSEDCL and the rulings of the Commission;
- **Section 3 –** covers the final true-up of ARR for FY 2015-16
- **Section 4 –** covers the final true-up of ARR for FY 2016-17
- **Section 5** – covers the provisional true-up of ARR for FY 2017-18.
- **Section 6** – covers the revised forecast of ARR for FY 2018-19 and FY 2019-20.
- **Section 7** – covers the certain additional claim amounts by MSEDCL on account of impact of Review Order, other Orders passed by the Commission, and computation of the impact of carrying and holding costs and their effect on the net Revenue Gap;
- **Section 8** – covers the compliance of previous directives issued to MSEDCL, and further directives issued in this Order;
- **Section 9 -** sets out the Commission's Tariff Philosophy and the category-wise tariffs applicable for the remaining part of the 3rd Control Period over FY 2018-19 and FY 2019-20, including determination of Wheeling Charges and Cross-Subsidy Surcharge and applicable conditions thereof,
- **Section 10 –** covers the Schedule of charges, followed by the Schedule of revenue at the revised tariffs at Annexure I to II and the approved Tariff Schedule at Annexure III and IV.

# 2. SUGGESTIONS/OBJECTIONS, MSEDCL'S RESPONSE AND COMMISSION'S RULINGS

## 2.1. Scope of MTR Proceedings

***Objections/Suggestions***

2.1.1. Prayas (Energy Group) – Institutional Consumer Representative stated that the objective of MYT is to provide regulatory certainty to consumers, utilities and investors; facilitate sound planning practices; address risk sharing mechanism between utility and consumers and improve operational efficiency and reduce tariff. However, the current MYT process has not been able to achieve the objective of better planning, and regulatory certainty for either the consumers or the licensees.

2.1.2. Shri. Ramchandra Bhogale of Chamber of Marathwada Industries and Agriculture (CMIA) stated that as per regulation 8.4 of the MYT Regulations, the Commission could approve modification to the ARR and Tariffs. However, MSEDCL in the said Petition has proposed cross-sectional changes in the Tariff structure (like introduction of kVAh based tariff, abnormal escalation in Fixed Charges, introduction of new consumer category, changes/amendment in provisions related to incentives, recovery of wheeling charges according to voltage levels as prescribed under the Standard of Performance (SoP) Regulations if the consumer is connected to higher voltage level, etc.). The expectation under Mid-Term Review (MTR) is that the Commission would revise the existing tariffs (and not the conditions of tariff) depending upon the approved gains or losses. Therefore, proposal of MSEDCL should not be accepted.

2.1.3. Shri. Hemant A. Kapadia, Consumer Representative has referred to Regulation 8.2 and Regulation 8.3 of MYT Regulations 2015, which has a very limited scope and does not permit MSEDCL to make any structural changes like creation of new categories, abolishing of power factor incentives, or changing terminology of measurement of consumption etc. MSEDCL is expected to submit comparison of actual operational and financial performance, approved cost for first two years of the Control Period and revised forecast of ARR, expected revenue from existing tariff etc. by proposing changes in tariff rates only for third and fourth year of control period. He has also requested the Commission not to consider any structural changes as the same do not comply with provisions of MYT Regulations 2015.

2.1.4. Shri. Rajeev Dutta from Hindusthan National Glass & Industries Ltd., Shri. Ajay Govind Baheti from Bhagwati Steel Cast Pvt. Ltd. and others stated that the proposal is not maintainable and is not permissible under Law. The sole idea and intention behind MYT is to stabilise the tariff for proper planning, growth and industrial stability and to save the valuable time of the Commission in determining tariff repeatedly. MYT Regulations clarifies limited scope of MTR Petition. The scope of MTR is limited only to the adjustment of Revenue Gap of MSEDCL, which must be adjusted in the category wise tariff for the third and fourth year of the Control Period. MSEDCL is proposing entire change in the power incentives and rebates under the tariff philosophy of MYT Order. Tariff philosophy is prescribed for maintaining stable tariffs during MYT control period, which is inherent objective of MYT Order. Hence, any change in power incentives/rebates provided under tariff philosophy of MYT order is void, illegal and not maintainable.

2.1.5. Shri. Ravindra Vaidya, Shri. Ravindra Sonawane from Lahu Udyog Bharati and others have stated that MSEDCL has filed MTR as per MYT Regulations, 2015 and that there is very limited scope for MTR Petition. The scope of MTR is only to identify the revenue gap of MSEDCL that has to be adjusted in the category wise tariffs for the remaining period of the Control Period. Hence, any change in the power incentives/rebates provided under Tariff Philosophy of MYT Order is void, illegal and not maintainable.

2.1.6. Shri. Dilip Kumar Pachpande of Mahindra Sanyo, Alloy Steel Producers Association of India (ASPAI) stated that MSEDCL in its Petition in Format 13.2 for FY 2018-19 has submitted revenue at existing tariff where existing ABR is shown as Rs 8.04/kWh. However, while estimating the CSS in format F15, MSEDCL has considered the ABR at existing tariff as Rs 8.63/kWh. Hence, he requested that the current Petition be withdrawn and public hearing be cancelled.

2.1.7. Smt. Sheela Shivraj stated that, at the outset the proposal is not maintainable in view of the provisions of section 62(4) of the EA 2003 as no petition for fresh exercise of tariff under the pretext of MTR is maintainable. Second important legal aspect is that any Review Petition can be filed only on three grounds - 1) Mistake or error apparent; 2) Discovery of new fact; 3) Any other reason. Therefore, the scope of Review Petition is very limited. However, the present Petition is not a Review Petition but a Tariff Proposal, which is contrary to MYT principle. If such an exercise is allowed, it will set a bad precedence. The idea and intention behind MYT is to stabilize the tariff for proper planning and industrial stability and to save the valuable time of the Commission in determining the tariff repeatedly. She also stated that in view of the above arguments prayers made at Sr. No 16, 17 and 18 should be rejected.

2.1.8. Shri. Anil Jain of XPRO India Ltd., M/s S. K. Parik, and Shri. Vishwas Harpude of Sai Services Agency (Bombay) Pvt. Ltd. and others stated that the Review Petition is not maintainable in view of Provisions of Section 62(4) of the Electricity Act 2003. Review Petition can be filed only on three grounds viz. (1) Mistake or error apparent; (2) Discovery of new fact; (3) Any other reason. The idea and intention behind MYT is to stabilize the tariff for proper planning and industrial stability and to save valuable time of the Commission in determining the tariff repeatedly.

2.1.9. Shri. Gautam Jain and others from Retailers Association of India stated that in with to Para 9.5.8 of the Petition that the, increase in demand charges is steep and proposal for such hike should not be entertained within a short span of two years of approval of MYT petition. Such proposal is against the fundamental framework of MYT and may affect commercials of business considerably. They also requested the Commission to apprise reasonability for before considering of such hikes. MSEDCL would have envisaged such tariff hike before filing the MYT Petition in 2015. Such request at the MTR stage is irrational and should be summarily rejected.

2.1.10. Shri. Raghunath Kaparthi, M/S Balaji Electrosmelters Ltd., and others stated that MYT Regulations, 2015 clarifies that there is limited scope for MTR Petition. The scope for MTR is that Revenue Gap of MSEDCL shall be adjusted in the category-wise tariffs for the third and fourth year of the Control Period. MSEDCL is proposing changes in the power incentives and rebates provided under the tariff philosophy of MYT Order. Tariff philosophy is prescribed for maintaining stable tariffs during the MYT Control Period, which is an inherent objective of the MYT Order. Hence, any change in the power incentives/rebates provided under tariff philosophy of MYT Order is void, illegal and not maintainable.

2.1.11. Shri. Ajit Patil of Grasim Industries Ltd. stated that the current MTR proposal is not maintainable in its full form as substantial portion thereof suffers from serious faults and lacunas and is against the provisions of the EA, 2003 and Law of Review. Hence, the proposal outside the scope of review deserves to be rejected. The present MTR Petition is nothing but a MYT Petition in disguise, which is not permissible under law. The Commission has already determined tariff while exercising its powers under Section 62 of the EA, 2003 and till determination of next MYT, the MSEDCL is entitled to seek review only to address its shortage in revenue and for that, the entire tariff order is not allowed to be disturbed.

2.1.12. M/s Netmech Founders Pvt. Ltd. stated that the present proposal of MSEDCL is not within the scope of MTR Petition but instead it looks like a new tariff proposal submitted before the Commission. The Commission should take a note of this and in a manner that the decision on such proposal should not provide justice to the consumers.

2.1.13. Shri. RakshPal Abrol of Bharatiya Udhami evam Upbhokta Sangh stated that the present MTR for MYT 3rd Control Period from Fy 2016-17, 2017-18, 2018-19 and 2019-2020 is uncalled for and have breached in breach of Section 61(f) of EA, 2003 and may not be entertained.

***MSEDCL's Reply***

2.1.14. MSEDCL submits that Regulation 5.1.(b) (iv) of the MYT Regulations 2015 provides for following:

> *b) Mid-Term Review Petition shall be filed by November 30, 2017, comprising:*
> *……*
> *iv. Revised forecast of Aggregate Revenue Requirement, expected revenue from existing Tariff and charges, expected revenue gap, and proposed category-wise Tariff for the third and fourth year of the Control Period;*

2.1.15. In line with the above provisions of the MYT Regulations, 2015, MSEDCL has filed the MTR Petition. This is not a legal review; it is a review provided in MYT Regulations and the objective of MYT is to provide stable tariff regime and not to deny legal revenue to the licensee.

2.1.16. It is also pertinent to note that Regulation 8.4 (c) of the MYT Regulations, 2015 provides for modification to ARR and tariffs. The relevant extract is reproduced below:

> *8.4 Upon completion of the Mid-term Review, the Commission shall pass an order recording-*
> *(c) the approved modifications to the Aggregate Revenue Requirement and Tariffs or Fees and Charges for the remainder of the Control Period.*

2.1.17. Thus, the Commission is empowered to modify the ARR as well as tariffs for the remaining period of the Control Period. It is the duty and responsibility of the Commission to provide appropriate ARR on time and any postponing will adversely impact MSEDCL's revenue and operations. Any postponing of ARR will force the

Commission to raise tariff in FY 2020-21 which again will be objected in public hearing.

2.1.18. MSEDCL has submitted the MTR Petition as per the provision of Regulations with due approval of Competent Authority.

2.1.19. MSEDCL submits that the reconciliation with the fellow subsidiaries is in process. The necessary action will be taken after the reconciliation.

***Commission's Analysis & Ruling***

2.1.20. Regulation 8 of the MYT Regulations, 2015 stipulates the scope of MTR process. The Commission has also noted the Objections raised as well as the replies submitted by MSEDCL. This is process mandated in the MYT Regulations. MTR is a mechanism to review the assumed numbers while forecasting revenue and expenditure during MYT, reasons for deviation in the numbers and thereafter-corrective action to match the ARR. Since, the MYT Regulations 2015 has specifically categorised both Controllable and Uncontrollable parameters hence any variation or expected variation has been dealt with as per the norms specified in the Regulations for each component in the subsequent chapters. The MTR petition of MSEDCL has been admitted as per the provisions of MYT Regulations after following due process.

## 2.2. Agricultural Sales Estimation, Distribution Loss and Agricultural Metering

***Objections/Suggestions***

2.2.1. Prayas (Energy Group) – The Institutional Consumer Representative has referred to the Commission's findings in Case No. 48 of 2016 and MSEDCL's reply on the same Order regarding setting up of committee of experts including members from IIT Bombay for carrying out study regarding agricultural sales and distribution losses. The same has been going on for over two years now and the report is yet to be finalised and shared by MSEDCL with the stakeholders. Appreciating MSEDCL's approach of proposing two methodologies to study agricultural sales, it was argued by Prayas Energy Group that the two studies conducted by MSEDCL on its own do not address the key concerns that have been raised in this regard.

1. **Study based on EHV station –** considers EHV input and estimated agricultural sales but the correlation between the two does not provide any information about

actual consumption pattern at a given circle. Again, MSEDCL's analysis is based on half yearly data. Hence, seasonal variations may not be captured adequately.

2. **Study of Agricultural sales based on rainfall and agricultural production** – where there is no analysis or comparison of disaggregated regional data regarding rainfall, cropping pattern and agricultural sales. If MSEDCL'sclaim on steep increase in agricultural sales are to be believed, then the same should be reflected in agricultural GDP (GDP of irrigated crops).

MSEDCL has reported very high number of hours of operation of Agriculture pumps in areas such as Nandurbar, Parbhani, Yavatmal, Beed, Latur etc. that are draught prone in comparison with water rich and better-irrigated areas such as Kolhapur, Sangli and Satara. Pertaining to the issue of agricultural unmetered sales, it was requested that Commission should initiate following steps on its own -

a. Undertake a detailed state-wide agriculture pump census to estimate the number of connections and connected load.

b. Undertake a statistically sound survey for estimating consumption data by capturing regional and seasonal variation of all districts and also allow correlation with factors such as region-wise cropping pattern, ground water availability, irrigation infrastructure, land holdings etc. across the year.

Prayas submitted that till the time such study is not undertaken, the agricultural sales and distribution loss trajectory approved by the Commission in Case No.48 of 2016 should continue to be followed.

2.2.2. Shri. Pratap Ganpatrao Hogade of Maharashtra Veej Grahak Sanghatana (MVGS) stated that it was the duty of MSEDCL to submit a copy of Committee report along with field survey report of IIT Bombay to the Commission as per its own submission in MYT Petition. However, MSEDCL has intentionally avoided it so as to claim higher agricultural consumption through present Petition. He stated that the Commission should issue necessary directions to MSEDCL to submit the same report along with relevant documents to the Commission. He also stated that the Commission has already ruled in its earlier two MYT Orders that it will take final decision regarding agricultural consumption after the receipt of Committee Report. Since this issue has crucial impact on tariff determination, he has requested the Commission to analyse and review the same before taking final decision regarding the agricultural consumption from FY 2013-14 to 2019-20, while deciding MTR Petition.

2.2.3. Shri. Samir Sane of Laghu Udyog Bharti, Shri. Sharad V. Kulkarni from Aurangabad and M/s. Shree Components and Shri. CR Jamdar from Pune referred to Case No. 48 of 2016, in which, the Commission had directed to form a Committee for third party audit of all agricultural feeders. MSEDCL has not submitted the IIT led Study Report to assess the actual agricultural sales. They also requested that by the time MSEDCL submits IIT report, Commission should allow to continue the same tariff as approved in MYT Order. It has been pointed out that if agricultural consumption is compared between FY 2013-14 and 2019-20, there is a huge difference of 27 to 30% and corresponding relief ranging from an amount of Rs. 7,000 Crores to Rs. 9,000 Crores.

2.2.4. Shri. N.D. Patil of Maharashtra State Irrigation Federation stated that MSEDCL has still not completed the metering process of agricultural un-metered consumers and should be completed on priority basis, as this will result in metering of the actual consumption of agriculture consumers. The major tariff impact is on agricultural pump-set category consumers, where the energy charges and fixed charges are hiked between 23% to 34% and between 108% to 233% respectively. Since, the State Government is not proposing any new concessions on Tariff Rate; this whole impact will have to be borne by the agricultural pump-set category consumers. For agricultural pump-sets - 3 HP, the tariff is proposed to be increased by 2.7 times as compared to the existing tariff. The proposed hike has also affected the Upsa Irrigation Scheme, which has an impact of 5 times more when compared with existing tariff. Further, he also stated that the Commission had earlier given clear direction for study of agricultural consumption by IIT Bombay, and after the submission of final report, agricultural consumption shall be determined as per the Commission's Order in Case No. 48 of 2016.

2.2.5. Shri. Atul Pande of Vidhrabha Industries Association (VIA), an Authorised Institutional Consumer Representative stated that, the Commission while computing agricultural sales based on feeder input has not considered Technical and Commercial losses and stated that there is further scope to deduct agricultural sales instead of allowing it. VIA has also specifically stated that despite several directives by the Commission, MSEDCL is not doing mandatory metering. In the event of non-availability of IIT report, agricultural sales should be considered as per the earlier method after deducting 30% LT line losses (after segregation of LT with HT).

2.2.6. Shri. R.G. Tambe of Sahyadri Sahakari Karkhana Ltd. suggested that MSEDCL should purchase electricity at low cost and implement all power purchase related suggestions properly to avoid increase in tariff of agricultural pump-set categories of consumers. He informed that the LIS tariffs paid by the group of Agriculture consumers is much higher than the tariffs paid by individual Agriculture consumers. All the LIS are metered. That an important role is played by LIS resulting in converting barren and dry land into irrigated and productive land. He also requested the Commission not to increase the tariff of agricultural pump-set categories since the paying capacity of the farmers is less due to the low revenue generated from yearly crop cultivations/yields.

2.2.7. Shri. Veejay Lad of Grahak Panchayat - Maharashtra argued against MSEDCL's proposition to increase overall fixed charges from 100% to 235% for agricultural consumers. He also requested the Commission not to allow such increase in Tariff.

2.2.8. Shri. Ajay Govind Baheti of Bhagwati Steel Cast Pvt Ltd., Shri. Raghunath Kaparthi from Amravati and M/s Balaji Electrosmelters Ltd. of Nagpur stated that the reactive power losses on agricultural pumps is more than 30% and due to this, MSEDCL is incurring losses of Rs. 3,749 Crores. Despite directions by the Commission referring to Regulation 5.9 of MERC Supply Code Regulations, 2005, MSEDCL has not completed metering process of agricultural consumers and installation of suitable capacitor in agricultural pumps. They also proposed to include kVAh metering for agricultural consumer, which will reduce losses for agricultural consumer.

2.2.9. Shri. Nagkumar Adhinath Desai has raised concerns over increase in proposed rates of electricity consumption by agricultural pumps. Since agricultural production is not fixed and as the State Government is a mere spectator on the same, he has requested to keep electricity rate of agricultural pumps same for next three years.

2.2.10. Shri.Viraj Wade, Smt. Dakshata Patil, Smt. Shilpa Gavai, Shri. Sanjay Mishra and Shri. Roshan Yadav from Navi Mumbai stated that the additional burden is due to the inefficiency of companies, huge capital expenditure, electricity theft, distribution losses and malpractices. So, they have requested the Commission that "Agricultural Pump Power Consumption Fact Finding Committee" and concerned "IIT Mumbai" reports should be obtained while determining electricity consumption and distribution losses. Electricity bills of agricultural pumps should be corrected and based on the same, new "Krushisanjivani" scheme should be declared. New subsidized electricity rates for agricultural pumps should be determined and implemented.

2.2.11. Shri. B. R. Mantri from Kalyan while referring to the EA 2003; stated that no connection shall be released without meter and there is no special exemption for agriculture consumers. MERC has earlier also instructed to provide the meter to all consumers and no connection to be released without meter. However, MSEDCL is still releasing new connections without meter to agricultural consumers and issued the bills on the basis of average consumption. He has also stated that the total unmetered sales of MSEDCL has shown an increase from 40% to 60%. When unmetered sales are more than meter sales, MSEDCL has no right to give the proposal for tariff hike.

2.2.12. Shri. Ashish Chandarana of Vidarbha Chamber of Commerce and Industry and several others stated that the consumers of Mumbai should bear agricultural cross subsidy, since Mumbai is an integral part of Maharashtra.

***MSEDCL's Reply***

2.2.13. **Agricultural tariff increase:** Tariff of Ag Consumers are subsidized since beginning and are lower than Average Cost of Supply. Ag Tariff is cross subsidized by other categories such as industrial, commercial and residential consumers having higher consumption. As per the provisions of National Tariff Policy, 2016 regarding reduction of cross subsidy, MSEDCL has proposed lower tariff hike to subsidizing consumers than that of subsidized consumers. Besides, agricultural consumers also get tariff subsidy from State Government.

2.2.14. **Agricultural Metering:** Considering the capital expenditure required for the metering of unmetered Agricultural consumers and the impact of capex on the tariff of other consumers, MSEDCL has proposed metering of 1 lakh unmetered Agricultural consumers per year in the MTR Petition. Further, MSEDCL is open to wide consultation on the issues related to metering as well as sales of Agricultural consumers in a very transparent manner. MSEDCL has also initiated a process of 100% survey of Agricultural consumers for Agriculture dominated circles. MSEDCL also submits that it will support if the Commission conducts the study for estimation of Agricultural sales through a third party. The Commission is also requested to tconsider the status of Ag metering in other States.

2.2.15. **Distribution Loss:** MSEDCL endeavours to reduce distribution losses to the lowest possible level. It has achieved a significant reduction in distribution losses in recent years from FY 2006-07 (30.2%) to FY 2017-18 (13.92%). These efforts will continue.

Also, the actual distribution losses of MSEDCL are less than the approved distribution losses by the Commission for the period of FY 2016-17 and FY 2017-18.

2.2.16. **Agricultural Consumption Committee:** MSEB Holding Company Ltd. (MSEBHCL) formed the Agricultural Consumption Committee. MSEBHCL sent the interim report to MSEDCL for its comments/suggestions and MSEDCL has submitted its comments to MSEBHCL. However, the final report is still awaited from the MSEB Holding Company Ltd. Since the date of MTR filing was approaching, MSEDCL felt that the concerns regarding Ag sales can be addressed if the same are authenticated based on the relevant data sourced from third party which has least possibility of manual intervention and hence were reliable and consistent. Accordingly, MSEDCL has carried out two statistical studies, one based on the analysis of EHV input data of feeders emanating from EHV S/s to MSEDCL S/s. The source of EHV data being a third-party source and hence reliable and consistent, it was utilized for the statistical study. The second study is based on the data of rainfall, crop and horticulture production. The data of rainfall and crop production are sourced from www.maharain.gov.in and www.mahaagri.in respectively (Websites of Department of Agriculture, GoM). The horticulture data is sourced from Economic Survey Report of Maharashtra for FY 2016-17 and APEDA, Ministry of Commerce & Industry, GoI the sources of rainfall and crop/horticulture production data are also third-party sources; hence, reliable and consistent. The study reports validate the AG sales for FY 2014-15 to FY 2016-17 as submitted by MSEDCL in its MTR Petition. MSEDCL has submitted the reports to the Commission as part of MTR Petition.

2.2.17. MSEDCL has also carried out a comparative study of parameters such as Ag load, Ag sales, Ag cross-subsidy, no. of hours supply is available for Ag etc. of various States in India. This has established that the Agricultural load and Agricultural sales of MSEDCL are comparable with other States.

***Table 2-1: Agricultural consumption across different states (units per consumer)***

| **Particulars** | **FY 2017-18** | | | | | |
|---|---|---|---|---|---|---|
| | **Maharashtra** | **Gujarat** | **Tamil Nadu** | **Punjab** | **Karnataka** | **Madhya Pradesh** |
| Agriculture consumption – units per consumer | 7,334 | 12,999 | 5,222 | 9,083 | 7,345 | 7,715 |

2.2.18. MSEDCL stated that electricity supply to AG consumers is to be given in daytime instead of night hours/in surplus power situation – 24 hours to Ag pumps. MSEDCL has been supplying power to Ag consumers as per the Load Shedding Protocol approved by the Commission.

2.2.19. On replying to burdening of Mumbai consumers with Agricultural cross subsidy, MSEDCL stated its agreement with the view expressed by the consumer and request the Commission to take appropriate decision.

2.2.20. MSEDCL submitted that it is already in the process of converting unmetered agriculture connection into metered connections. As directed by the Commission in its Tariff Order dated 3 November 2016, MSEDCL has already converted around 75,000 unmetered agricultural connections of 7.5 HP and above to metered agricultural connections.

2.2.21. MSEDCL has already installed prepaid meters for some of its consumers. Further, MSEDCL is in the process of procuring smart meters for its consumers on pilot basis.

2.2.22. MSEDCL stated that no unmetered agriculture connection is being issued. MSEDCL has also furnished the details regarding metering of unmetered agricultural connection in MTR Petition. The compliance of the earlier directive of the Commission pertaining to this has been submitted to the Commission vide leer No. CE (Dist.) / D-IV / Ag metering / 26385 dated 27 October 2017.

***Commission's Analysis & Ruling***

**A] Agriculture Sales**

2.2.23. Several objections have been raised regarding the estimation of agriculture sales by MSEDCL. Various anomalies in agriculture sales estimation and the extent to which agriculture consumption is overstated have been cited, including in terms of the number of hours of operation of agricultural pumps (showing higher hours of operation in water-scarce areas).

2.2.24. The Commission expresses its displeasure with MSEDCL proposing a new methodology in every new filing. Not only the approach is inconsistent but also no concrete steps are taken by MSEDCL to address the main concerns about regarding assessment of the Agriculture sales.

2.2.25. The method suggested by MSEDCL in this petition also appears to be based on the secondary data and at the most can be considered as a corroborative justification.

Commission feels the Agriculture consumption needs to be worked out on correct primary data.

2.2.26. The Commission is also unhappy about non-submission of the report of the AG Consumption Committee which as per the committed position in their MYT petition. The Commission expected a positive approach from MSEDCL to submit the report along with their comments on the same. The Commission directs MSEDCL to take up the matter with MSEBHCL and to submit the report along with its comments at the earliest.

2.2.27. In the absence of availability of Report, the Commission has proceeded to assess the AG sales as per the approach elaborated under Chapter 3 of this Order.

2.2.28. The Commission observes that in Public hearings at various places various objectors stated that if Mumbai is having claim over Maharashtra's agricultural produces, it should bear Agricultural Cross Subsidy. Considering the fact that Agriculture consumers need to be subsidized and further that the cross subsidy mechanism operates within the Distribution licensee, prima facie it appears that this suggestion needs a detailed analysis and also engagement with other stake holders. Considering the present structure and provisions of EA 2003 this issue cannot be decided in isolation unilaterally. After giving serious thought to this suggestion, Commission would like to refrain from giving any direction in this MTR Order.

**B] Distribution Loss**

2.2.29. For FY 2015-16 and FY 2016-17, the Commission has computed a Distribution Loss based on the revised sales, mainly on account of re-assessment of agriculture sales as approved for the year. Further, the impact of sharing of losses on account of non-achievement of Distribution Loss target has been considered on provisional basis. The Commission’s detailed analysis and rulings on the issue of Distribution Loss to be considered for FY 2015-16 and FY 2016-17 are elaborated in Sections 4 and Section 5 of this Order, respectively.

2.2.30. As regards remaining period of the 3rd Control Period, since the final true up for these years shall be undertaken at the end of the Control Period, the sharing of gains/loss on account of distribution loss as performance parameter shall be undertaken at the end of the Control Period in accordance with the Regulations and upon undertaking independent study through third party verification agency for AG consumption.

**C] Agricultural Metering**

2.2.31. The Commission noted the submissions of MSEDCL vis-à-vis directions given under previous MYT Order and summarised under the Chapter 8 (Compliance of directions). MSEDCL has completed metering for over 99% of un-metered agriculture connections above 7.5 HP in line with directions given under MYT Order. Section 55 (1) of the Electricity Act, 2003 mandates installation of correct energy meter to the consumer. Hence, in the past, the Commission has issued various directives to MSEDCL for metering of un-metered consumers. Although MSEDCL has not issuing any new connection without proper meter, progress of metering of un-metered Agricultural consumers is relatively slower.

2.2.32. Although, provisions of Section 55(1) of the Electricity Act, 2003 cannot be overlooked, in meantime other alternatives such as group metering or feeder metering may help in energy accounting and billing of un-metered Agricultural consumers. Hence, as an interim measure, the Commission suggests that MSEDCL should come-up with group metering / feeder metering / DTC metering scheme for un-metered Agricultural consumers. MSEDCL should prepare and submit such group metering scheme for Commission's approval for its expeditious implementation. Further, the Commission will review metering status of un-metered Agricultural consumers in the subsequent tariff filing process.

## 2.3. Increase in Fixed Charge/Demand Charge

***Objections/Suggestions***

2.3.1. Shri. Ramchandra Bhogale from Chamber of Marathwada Industries and Agriculture (CMIA) stated that the proposal of MSEDCL for increasing fixed charges to the tune of 100% to 150% is a big shock to all categories of consumers and in particular, to industrial consumers and is totally unjustified.

2.3.2. Shri. Hemant A. Kapadia, a consumer representative stated that MSEDCL's proposal of hike in Demand Charges to the tune of 200% to 250%; if accepted would result into 20% to 25% rise in electricity bills. He also stated that industrial development in the state would suffer heavily which is not justified. He also pointed out that MSEDCL has entered into several PPAs with power generators for supply of power quantum, which is not required in near future. Hence, he requested the Commission that instead of giving shock to the consumers, it may increase fixed charges gradually and reasonably to match with the adjacent states and simultaneously direct MSEDCL to reduce energy charges by controlling O&M expenses and proper power planning.

2.3.3. Shri. Veejay Lad of Grahak Panchayat Maharashtra stated that there are 1.20 Crore consumers in Maharashtra state whose consumption is below 100 units. MSEDCL has proposed increase in fixed charges from Rs. 65 to Rs. 140/month, which is more than 100%. Hence, the proposition to levy fixed charges should not burden the consumers who pay their bills on regular basis; instead, this increase should be burdened on such consumers who do not fulfil their billing demand.

2.3.4. Smt. B. M. Pingale, Shri. Swapnil Patkar and Shri. Parag Pawar from SEW Group-Pune, argued against MSEDCL’s proposal to increase fixed charges and have raised concern over poor service quality. They have also questioned the grounds for hike in fixed charges and justification over their deteriorating service for years.

2.3.5. Shri. Vivek Velenkar, Secretary of Sajag Nagarik Manch claimed that for consumers of all categories the fixed charges shall increase by 100% to 250%; which can be bifurcated as: - for 0-100 units household consumer, the increase in bill amount would be 25-300%; for 101-300 units, the increase will be 10-30%. Hence, for 0-100 unit category, there should be no increase in fixed charge while for 101-300 unit, maximum increase should be restricted to 10%.

2.3.6. Shri. Vivek Dharurkar of Bharat Forge Limited from Pune stated that as proposed if the fixed/demand charges are to be revised then the energy charges also should be reduced proportionately as observed by the Commission in its past Orders.

2.3.7. Shri. Tushar D Parakh from Maha Cold Storage Association stated that the proposed hike in fixed charges/demand charges will lead to complete shutdown of cold storages across the State since the increase in tariff of Cold Storages will increase sharply leading to food inflation and impact other crucial micro-economic factors. He has also requested the Commission again to create a separate category of consumers for all cold storages across the State.

2.3.8. Shri. Dharmesh Pawar from Pune, Shri. Suraj Maru and others from Navi Mumbai have objected that existing consumers should bear electricity charge, distribution charge, fuel charge and electricity sale tax so there is no point in paying fixed charges. In addition, they also stated that consumers have to pay 21% extra for commercial connections and 16% extra for household purpose, which will increase per unit electricity cost.

2.3.9. Shri. Sachin Eknath More from Pune stated that for HT consumers fixed charge for FY 2018-19 was proposed to be increased from 109% to 233%, on which he objects and requested that the maximum increase should be 10% - 20%. For LT consumers (including BPL) for FY 2018-19, the fixed charge has been increased from minimum 15% to maximum 238%. Hence, he suggested that the hike should be between 5% to 15%. Since, demand charges and fixed charges are also related to average per unit cost, he requested to allow 25% discount (in demand and fixed charges) to all customers.

2.3.10. Shri. Nitin Deore of Daksha Infrastructure Pvt. Ltd. stated that MSEDCL proposed demand charges of Rs. 565/kVA against approved rate of Rs. 270/kVA, i.e., 109% increase. He requested the Commission not to allow such steep increase in this present proceeding.

2.3.11. Shri. Sharad Chobe from Urja Manch stated that MSEDCL has suggested increase in fixed charges by 100% to 150% and withdrawal of incentive like power factor, load factor etc. which is not viable for industrial sectors. Shri. Uttam Shankar Saoudane stated that the fixed charge has increased from Rs. 65 to Rs. 140 for consumers below 100 unit and above 100 units is Rs. 220. Hence, they have requested the Commission not to allow increase in fixed charges as proposed by MSEDCL.

2.3.12. Shri. S. K. Gupta of Gharda Chemicals Ltd. and Shri. Ashok M. Swami of Maharashtra State Cotton Traders Federation stated that MSEDCL has proposed an increase in fixed charges by 109%, i.e., from Rs. 270/KVA to Rs. 535/KVA. They have requested the Commission to avoid such incremental change, which will adversely affect the industrial consumers.

2.3.13. Shri. Krushna Bhoyar of Maharashtra State Electricity Works Federation stated that out of MSEDCL’s total expenditure, 55% expenditure comprises of fixed cost. Except for some small technical expenses and change in usage of consumers, MSEDCL has no effect on fixed cost. MSEDCL has also proposed to charge 50% of total fixed cost for household and 75% for others; which is unacceptable. He also stated that the fixed charge should be as per the sanctioned load or connected load; whichever is more.

2.3.14. Shri. Manish Kedia - Director of Deesan Agro Tech Pvt. Ltd stated that MSEDCL proposed a steep rise in demand charges to recover its revenue. MSEDCL's fixed charges were high but energy charges were low which had resulted in huge distribution losses. Therefore, Commission should not allow such heavy charges.

2.3.15. Shri. Arun Waghmare stated that for agricultural pump category farmers the increase is from 23% to 34% and the proposed fixed charge increase is more than 100%, i.e., 108-233%. For up to 3 HP agricultural pumps, customers shall receive bills at a rate of Rs 2.06/unit and above 3 HP, at Rs. 2.36/unit. While in May 2015, it was 55/85 Paisa per unit, which is now 3.5 times.

***MSEDCL's Reply***

2.3.16. It has been the Commission's Policy of recovering the fixed cost of MSEDCL through a fixed charge component in tariff. Further, Ministry of Power has proposed an amendment in National Tariff Policy, wherein, it stipulates that in order to reflect the actual share of fixed cost in the revenue requirement of distribution licensee, there is need to enhance recovery through fixed charges. At present, MSEDCL's fixed cost is around 55% of its total cost whereas, the recovery through fixed/demand charges is only 27% of the fixed costs. Even after the proposed hike in fixed/demand charges, the projected recovery will still be only 47% of the fixed costs. Further hike in the fixed/demand charge in the subsequent Petition is required.

2.3.17. MSEDCL submitted that it is also important to note that the Commission has reduced the fixed charges of different categories of consumers unilaterally in Tariff Order for FY 2008-09 by around 50% (e.g., for HT industry fixed charges were Rs 300/KVA/month which were reduced to Rs. 150/KVA/month) citing the reasons of reduced availability of power. But, the subsequent rise in fixed charges has been lower and the current fixed charges approved for industrial category is still not up to the level of FY 2007-08 even when sufficient power is available. Considering the average annual inflation rate of around 7% and applying it to fixed charges of Rs. 300/KVA/month for FY 2007-08, the fixed charges in HT industrial category should have been around Rs. 570/KVA/month by FY 18-19 which is close to what MSEDCL has proposed for FY 18-19 & FY 19-20.

2.3.18. The comparison of fixed charges for HT industrial consumers applicable in different States for FY 2017-18 is shown below from which it can be seen that the present fixed charges in MSEDCL are much lower compared to other States.

***Table 2-2: comparison of fixed charges for HT industrial consumers (Rs. / kVA / month)***

| FY 17-18 | MSEDCL | Madhya Pradesh | Andhra Pradesh | Gujarat | Himachal Pradesh | Chhattisgarh | Tamil Nadu |
|---|---|---|---|---|---|---|---|
| HT Industrial | 250 | 620 | 475 | 475 | 425 | 375 | 350 |

2.3.19. **Fixed Cost – Roadmap for four years:** The necessity of recovering fixed costs through fixed/demand charges has been justified by the Commission as well as in the National Tariff Policy in its latest amendments. The Commission has reduced the fixed charges of different categories of consumers unilaterally in Tariff Order for FY 2008-09 by around 50% (e.g., for HT industry fixed charges were Rs. 300/KVA/month which were reduced to Rs. 150/KVA/month) citing the reasons of reduced availability of power. But, the subsequent rise in Fixed Charges have been meagre. At present, the recovery through fixed/demand charges is only 27% of the fixed costs even when sufficient power is available. Even after the proposed hike in fixed/demand charges, the projected recovery will still be only 47% of the fixed costs. Further, hike in the fixed/demand charge in the subsequent petition is required. Hence, there is no question of any separate roadmap of four years for fixed cost hike.

2.3.20. While replying to queries on reasons behind payment of Fixed Cost if generator is outside MOD or in case of non-availability during demand, MSEDCL stated that it is bound to pay the requisite fixed charges as per the terms of PPA. MSEDCL agrees with the suggestion regarding the payment of fixed charges linked to availability of generation. MSEDCL has witnessed that generating companies are declaring lower availability during peak period months and higher availability during low demand period months. MSEDCL submits that availability for payment of fixed charges may be considered on monthly basis instead of annual cumulative adjustment by year-end.

2.3.21. On reply to query raised on levying of fixed cost when the total energy charge of consumer in a given month is more than fixed cost MSEDCL submitted that fixed charges are levied to cover the fixed cost obligations of MSEDCL. Fixed charges cannot be based on the variable component of Tariff, i.e., energy charges which will result into inadequate recovery of the cost. Further, Ministry of Power in its consultation paper dated 24 August 2017, has proposed that State Regulatory Commissions should develop a phased implementation plan over a three to five-year horizon to progressively bring fixed charges in retail tariff to 75% to 100% of the fixed cost liability of Distribution Licensees.

2.3.22. Accordingly, MSEDCL has proposed the hike in fixed charges. It is pertinent to note that even after the proposed hike in fixed charges, the revenue recovery through fixed charges will be only ~24% of the total revenue.

***Commission's Analysis & Ruling***

2.3.23. Several consumers have objected to MSEDCL's proposal of increase in Fixed Charges to tune of 100% to 150% in most of the categories, MSEDCL has also proposed 200% to 250% increase in Demand Charges. The Commission has elaborated the rationale for levy of Fixed Charges and Demand Charges in previous Tariff Orders, i.e. to the extent possible, recovery of fixed costs should come from the Fixed Charge component of Tariff. That is also in accordance with the EA, 2003 and the National Tariff Policy.

2.3.24. Given the surplus situation of availability of power now in the State, the Commission has decided to rationalise and increase the Fixed/Demand Charges for all categories of consumers so as to gradually move towards the mandate of recovery of fixed assets through Fixed /Demand charges. Moreover, with the rationalization of Energy Charges elaborated in Chapter 9 of this Order, the revision in Fixed Charge is unlikely to burden consumers significantly.

2.3.25. Other issues relating to Tariff design have been dealt with in Chapter 9, in which the Tariff Philosophy and Tariff design-related aspects have been discussed in detail.

## 2.4. Wheeling Charges - SOP Standards & Non-Compliance

***Objections/Suggestions***

2.4.1. Shri. Pratap Ganpatrao Hogade of Maharashtra Veej Grahak Sanghatana (MVGS) Secular, Representatives of N.K. Minda Group Industries, Shri. Raju Patil of Shiroli Manufacture's Association Kolhapur, Shri Ashok M. Swami and M/s. Shree Components and CR Jamdar stated that as per Case No. 48 of 2016, the Commission has directed MSEDCL to segregate consumer categories as follows: i) 66 kV and above ii) 33 kV iii) 22/11 kV iv) LT level. Since 22/11 kV categories are combined, 22 kV consumers shall pay higher wheeling charges. In nine circles, 33 kV distribution lines are not there. To stop losses, they have requested the Commission to separate Wheeling Charges for 22 kV and 11 kV. They have also requested the Commission to not consider the proposal of MSEDCL for Wheeling Charges at 33 kV, as the consumers are already paying "High Voltage" Wheeling Charges. At some region, there is no 33 kV infrastructure and consumers are connected and being charged as HV level.

2.4.2. Dr. Hedgewar Rugnalaya from Dr. Babasaheb Ambedkar Vaidyakiya Pratishthan, Rajendra Nair of Teryair Equipment Pvt. Ltd., representatives from Nirlep Appliances Pvt. Ltd. and others have objected on MSEDCL's proposal to increase the Wheeling Charges for 11 kV consumers from 82 paisa to 83 paisa for the current year and from 73 Paisa to 78 Paisa for the following year.

2.4.3. Shri. Sachin K. Japtap from Sigma Electric Manufacturing Corporation Pvt. Ltd. requested the Commission not to allow recovery of Wheeling Charges from consumers connected to higher voltage levels and direct MSEDCL to levy Wheeling Charges as per the connected voltage level of the consumer.

2.4.4. Shri. Anil Jain of XPRO India Ltd. stated that there is a huge difference in Wheeling Charges levied for 22 kV and 33 kV where, consumers are having little knowledge and awareness about line loss at different voltage levels. He also raised questions on MSEDCL for erecting new substation of 22 kV instead of 33kV level in Industrial Estate of Ranjangaon. He also suggested to frame a time bound program for creating 33 kV voltage level in all EHV substation in next one year.

2.4.5. Eternity Legal of Green Energy Association pointed out that voltage wise segregation done by MSEDCL has no accurate audited data. Clause 6.3 of the NTP, 2016 stated that the Wheeling Charges should be reasonable and fair to harness captive generation. MSEDCL has adopted a simple methodology of cost allocation for determining the Wheeling Charges as if; MSEDCL is not interested in deriving real cost of wire and supply. Despite reducing losses to less than 15% in FY 2018-19 onwards, MSEDCL still has proposed to consider the same wheeling losses, which were approved when losses were very high. If technical losses have reduced over a period, the wheeling losses also ought to be fixed more scientifically. The losses can't remain at 6% (33 kV), 9% at (22/11 kV) and 12% at LT level. Thus, such proposal of MSEDCL should be considered by the Commission.

2.4.6. Shri. Sudhir Budhay stated that the proposal for Wheeling Charges as per SoP is unjustified. Wheeling Charges must be in accordance with supply voltage level on which the consumer is connected. In addition, consumer on different voltage than prescribed under the Standards of Performance, Regulations 2014 is due to non-availability of infrastructure read with section 42 of Electricity Act, 2003. Therefore, the proposal is unfair on the part of MSEDCL to advance such proposal.

2.4.7. Shri. Atul Pande of Vidharbha Industries Association also stated about levying wheeling charges to rooftop solar consumers is beyond scope of tariff Petition as it is governed by a separate Policy. He pointed that MSEDCL is not taking regular reading of rooftop generation meters, which could have been utilized to fulfil its RPO obligations. Hence, he requested the Commission to direct MSEDCL to submit detailed analysis of total rooftop solar consumers along with RPO obligations fulfilment done through it.

2.4.8. Shri. Sunil Mehta of Emcure Pharmaceuticals Ltd stated that for consumers getting power supply on express feeder/dedicated feeder should be billed based on the Energy Audit meter installed at substation end and no Wheeling Charges should be applicable in such case.

2.4.9. Shri. Nitin Deore from Daksha Infrastructure Pvt Ltd, Shri Manish Kedia from Kores (India) Limited stated that the Commission offers 3% EHV rebate to consumers connected on EHV network which has been removed in the present Petition. MSEDCL demanding Wheeling Charges from those who are connected at higher voltage level than stipulated in the Commission's Standard of Performance Regulations, 2014 and silent on consumers connected at lower voltage levels. Hence, the Commission should not allow such Wheeling Charges based on voltage level of Standard of Performance Regulations. Similarly, Bilcare Ltd, stated that it is falling under 22 kV HT express feeder, but is unnecessarily paying extra Wheeling Charges compared to 33 kV since November 2016 and has suggested to maintain the same Wheeling Charges as of 33 kV consumers. Also objected to the proposed hike of MSEDCL and has requested MSEDCL to improve Distribution, Transmission efficiency, and reduce power theft as well.

2.4.10. Shri. Ramchandra Bhogale from Chamber of Marathwada Industries and Agriculture (CMIA) objected to MSEDCL's submission to impose and collect Wheeling Charges as per the Standard of Performance Regulations level, if MSEDCL network is not in existence, which inter – alia mean that in all situations wherever MSEDCL do not have infrastructure for providing power supply to the consumer(s) at an appropriate voltage level as mandated by the Standard of Performance Regulations, then such consumer(s) shall be considered as deemed to have been connected to a voltage level as required under the Regulations with due regard to the sanctioned load/demand of such consumer(s). In such circumstances, the consumer(s) though connected to a voltage level below the voltage level prescribed/mandated by the Regulations, shall be eligible to pay Wheeling Charges equivalent to the Wheeling Charges as applicable to consumer(s) connected to the Grid at a higher voltage level. Alternately, in a situation where the voltage level as mandated by the Regulation exists, but, the consumer(s) is connected to the system at a voltage level other than the statutorily desired voltage level, then in such circumstances MSEDCL expects to recover the Wheeling Charges either as per the voltage level at which the consumer is connected or as per the statutorily mandated voltage level to which such consumer(s) should have been connected, whichever is higher. Again, the Commission in Case No. 48 of 2016, for the first time, has separately determined the Energy Charge and Wheeling Charges for HT consumer categories, segregated into EHV, 33 kV, and 22 kV /11 kV voltage levels. component. The consumers connected at EHV voltage levels (above 33 kV) are not subjected to any Wheeling Charges or wheeling losses. From the Tariff Order, it is clear that the Commission while determining the Wheeling Charges has considered Network Cost and Consumption (Sales) at different voltage level, i.e. EHV, 33 kV, 22 /11 kV & LT Level. Nowhere the Commission differentiated the consumers based on sanctioned/connected load, whether the sanctioned/connected load is connected to the grid at appropriate voltage level as per the SoP Regulations, 2014. He also stated that if the consumer is connected on higher voltage level, Transmission and Wheeling losses will be less and vice versa if the consumer is connected to lower voltage level. Therefore, connecting consumer to higher voltage level reduces losses and is beneficial to MSEDCL.

2.4.11. Shri. B. R. Mantri stated that MSEDCL has requested to charge Wheeling Charges as per SoP, without consideration of actual voltage level. This should be rejected as and when the consumer shifts to higher voltage level, automatically reducing the line losses. He also added that the basic principle of Wheeling Charges “Line Loss” to be considered. Otherwise separation of Wheeling Charge in the tariff to be discontinued.

2.4.12. Shri. Sanjay Deshmane and Shri. Ravindra Vaidya of Lahu Udyog Bharti stated that previously the Wheeling Charges for 11 KVA and 22 KVA is Rs. 0.82/unit against Rs. 0.09 for 33 KVA .There is variation of Rs. 0.73/unit. So industrial consumer on 11 and 22 KVA are paying Rs 0.73 more + 9.3% Duty that is Rs. 0.81 more than consumer on 33 KVA. Since MSEDCL do not have uniform infrastructure, it is a huge loss for old industries.

2.4.13. Shri. Ajit Patil of Grasim Industries Ltd. and Adv. Veejay Kumar Aggarwal stated that as an Advocate for few HT-1 industries he had filed one Petition being Case No. 99 of

2017 before the Commission regarding applicability of tariff to Wheeling Charges in the areas where there is only 22 kV power/voltage line and consumers are eligible to be connected on 33 kV. The Wheeling Charges applicable to 33 kV should be levied and not the charges of 22 kV. The Commission vide its Order dated 25 April 2018, admitted all the issues raised and appreciated the same. In the above Order, the Commission identified nine circles falling under the territorial jurisdiction of MSEDCL, where HT-1 industries are located but there is only 22 kV infrastructure. MSEDCL in its affidavit even submitted that MSEDCL has no plan nor any feasibility in near future to provide 33 kV or higher power line. The Commission in its Order dated 25 April 2018, observed and held that issues raised in the Case and are required to be heard and considered during public hearing during MTR Order. The Commission also granted interim relief till passing of MTR Order by the Commission. Therefore, the issues raised in the above Case No. 99 of 2017 be kindly taken up and disposed off in the interest of justice, equity and fair play.

2.4.14. Shri. Dilip Kumar Pachpande of Mahindra Sanyo, Shri Suketu Shah of Alloy Steel Producers Association of India (ASPAI) and others stated that despite reducing the losses to less than 15% in FY 2019 onwards, MSEDCL has proposed to consider the same wheeling losses, which were approved when losses were very high. If technical losses have reduced over a period, it is the duty of the Commission to approve the wheeling losses more scientifically. These losses cannot remain at 6% (33 kV), 9% (22/11 kV) and 12% (LT). He also stated that submission of MSEDCL should not be considered and should be determined such that Wheeling Charges are decreased so that in future MSEDCL shall report the actual cost allocation.

2.4.15. Shri. Dilip Datawani of Hotel & Restaurant Association (Western India) and Retailers Association of India stated that the responsibility of sanctioning load/demand to the consumer fundamentally lies with MSEDCL and after application; MSEDCL approves connectivity for the voltage level. Therefore, the Commission may kindly direct MSEDCL to submit compliance report for 1797 no’s of consumers allowed to be connected at higher voltages and fix up the responsibility for the same and not pass such costs because of administrative issues of MSEDCL to the honest consumers through tariff.

***MSEDCL's Reply***

2.4.16. MSEDCL submitted that it has computed the proposed Wheeling Charges by following the same methodology adopted by the Commission while approving the Wheeling Charges in MYT Order dated 3 November 2016.

2.4.17. On reply to Wheeling Charges based on billing demand MSEDCL stated that as per the provisions of EA, 2003, MSEDCL is bound to release supply as per the stipulations made out in prevailing SOP Regulations. Earlier, the connections of the consumers were released as per the provisions of SOP Regulations, 2005 on available voltage level. The said regulations have been amended in 2014 in which the limit for release of load at various voltage levels have been revised. However, at present, certain consumers are connected at higher voltage levels than prescribed in the amended Regulations. In spite of the availability of lower voltage level and having a sanctioned load limit of lower voltage level, these consumers are paying less Wheeling Charges.

2.4.18. MSEDCL further submitted that the Commission in its Order dated 25 April, 2018 in Case No. 99 of 2017 has taken up an issue of levy of Wheeling Charges to consumers connected on lower voltage levels wherein the Commission has noted as:

> *"42. MSEDCL has many other consumers who are availing power at higher or lower voltage level than specified in SoP Regulations. This could be because of non-availability of requisite network. The possibility of gaming by consumers to pay lower Wheeling Charge also cannot be ruled out due to which MSEDCL is possibly losing their legitimate Wheeling Charge revenue. The Commission would look into this aspect and give necessary direction in the MTR Order."*

2.4.19. Though the Regulation 5.3 of SoP Regulations, 2014 provides option for consumer to select voltage level at which he desires to get connected to Grid, MSEDCL submits that the said provision was included in the SoP to facilitate the consumer and MSEDCL alike to undertake the Universal Service Obligation envisaged under the Act EA- 2003. However, the said provision is not enabling or empowering provision whereby the consumers opts for connection at higher voltage level to shy away from paying legitimate wheeling charges to the licensee. MSEDCL has noticed that number of applications for load sanction at higher voltage i.e. at Non SoP level has increased and there is possibility that applicants are gaming to pay lower wheeling charges, the possibility and threat of which was recognized by the Commission. Hence, any such gaming needs to be stopped immediately as such gaming seriously prejudices the revenue recovery of MSEDCL. Accordingly, MSEDCL has proposed recovery of wheeling charges based on billed demand of such consumers for that particular month for FY 2018-19 and FY 2019-20.

2.4.20. While replying to the proposal of levy of wheeling charge, on rooftop consumers, MSEDCL stated that, they are required to keep its entire generation, transmission and distribution capacity available for rooftop consumers also even if they consume power from rooftop system and hence MSEDCL has proposed to levy Wheeling Charges on rooftop energy consumption so that the burden of such under recovery does not get passed on to other consumers.

2.4.21. Proposal of Wheeling Charges as per SoP is not correct as consumers connected on higher voltage have less loss: MSEDCL has proposed Wheeling Charges in view of the Commission's Order in Case No 99 of 2017is connected.

***Commission's Analysis & Ruling***

2.4.22. The Commission has dealt with this issue, after considering availability of requisite voltage level/network in the area/circle, cost implication of additional infrastructure of 33/22 kv network, practicality of maintaining dual voltage level in the whole of license area, provisions of the regulations enabling shifting on higher voltage, lower level of distribution loss at higher voltage, changes required to be made at consumer end infrastructure to shift from one voltage level to another, possibility of gaming, principles followed in the order in Case no 99 of 2017 etc. The Commission notes the concerns raised by the consumers as well as MSEDCL. The basic calculation/premise for working out to Wheeling Charges at different voltage levels is the asset base of the particular voltage level and the sales at voltage level. Further, the factor of Distribution loss is an important parameter. Losses reduce on the higher voltages. MSEDCL also in its submissions during the public hearing has accepted that wheeling Charges should be as per the Voltage levels.

2.4.23. The Commission also notes the concerns of MSEDCL that there are nine circles where only 22 kV network and it is not prudent to make investment for 33 kV network in the nine circle and create parallel 22 KV network in balance circles.

2.4.24. Therefore, the Commission rules that:

- The Wheeling Charges shall be levied as per the voltage level on which the consumer is connected irrespective of the Voltage level specified in the SoP.

- Additionally, in case of the 9 circles where the MSEDCL network is of 22 KV (absence of 33 KV network) the Wheeling charges would be worked out considering that if the Billing Demand is equal to more than the eligible demand specified at 33 KV level in the SoP Regulations, the consumer will be required to pay the Wheeling charges of 33 KV for that particular month.

2.4.25. The Commission has determined the Wheeling Charges in subsequent sections at chapters 9. Further, the Commission has determined the voltage-wise wheeling charges for EHV, 33 kV, 22 kV, 11 kV and LT in accordance with the principles and methodology outlined under the Chapter-9.

## 2.5. Power Purchase

***Objections/Suggestions***

2.5.1. Prayas (Energy Group), Institutional Consumer Representative stated that power purchase accounts for more than 70% of total cost of the Distribution Licensee. There is a power surplus situation, but large part of the contracted capacity are unavailable when needed. Again, there is coal shortage but no specific reasons about any shortcomings in coal procurement practices of generating company. And, why has the flexibility in coal usage not resulted in improved coal availability or cost saving. Also, there are serious implications for tariff and supply quality like cost of short term power purchase and possibility of load shedding. There is urgent requirement of usage of advance tools to simulate Grid operations, Unit commitment and economic despatch etc. to minimise system cost and for better estimation of seasonal and diurnal variation in shortage and surplus.

2.5.2. Shri. Atul Pande of Vidhrabha Industries Association (VIA) stated that the Commission should not allow any new generating plant to be established by MSPGCL on cost plus basis and should be done on competitive bidding. Regular capacity test should be demonstrated as well as declared and actual capacity should be checked in random by MSLDC with directives to demonstrate actual capacity. Capacity charge has huge impact on Distribution Licensee. Hence, he also requested to provide details of all such activities in relation to fixed charges paid to all plants without procuring power. Purchase from RE sources- i) More solar energy to be procured. ii) To check whether biomass generation are using maximum 25% coal or otherwise which is not yet done. Therefore, the Commission must appoint inspection team which should conduct the audit of entire sale purchase, procurement, transportation related docs to ascertain facts.

2.5.3. Shri. Nitin B. Tilak of TATA Motors Ltd. requested the Commission to revalidate the excess generation as proposed by MSPGCL in its ARR Petition for FY2018-19 and FY2019-20, which impact MSEDCL's ARR for the same period. He, therefore, requested the Commission to disallow the excess cumulative power purchase cost of Rs.4877 Crore shown in MSEDCL's ARR from FY 2015-16 to FY 2017-18, revalidate, and disallow additional Power Purchase Cost of Rs. 2,465 Cr as projected by MSEDCL for FY 2018-19 and FY 2019-20. He also stated analysis of billing parameter wise increase by MSEDCL, which would result in 24% hike in cost of power to MSEDCL consumers over and above the existing tariff rates approved by the Commission in Case No.48 of 2016. We therefore request the Commission to disallow projected 24% and 22% hike in MSEDCL power cost to Consumers for FY 2018-19 and FY 2019-20 respectively.

2.5.4. Shri. R. G. Tambe of Sahyadri Sahakari Sakhar Karkhana Ltd. requested the Commission to take stringent measures for increasing the working efficiency of MSPGCL and sell power as per the Contract Capacity. This will result in purchasing of power at lower tariff and consumer will not be burdened with penalty caused to accumulate Revenue Loss. He also added that the Commission should purchase power as per the Merit Order Despatch results.

2.5.5. Shri. Umesh M Malviya and CA Arun Velani stated that Auditors in FY 2016-17 reported that there is under-booking of compensation for increase in coal cost pass through due to New Coal Distribution Policy for Adani Power Maharashtra Ltd and Rattan India Power Ltd of Rs 3,91,216 Lacs. If these amounts are booked, in future the same will not be allowed in Income Tax as an eligible expense and would mean loss of tax @ 33.90% amounting Rs 1,32,622 Lacs. Hence, Tax liability would have been lower by Rs. 132,622 Lakh had this amount been booked as expense.

2.5.6. Shri. Viraj Wade and others stated that due to inefficiency and huge production cost, MSEDCL is paying excess at the rate of 1 Rs/unit to MSPGCL and Rattan India etc. for power purchase. Increase in the efficiency of MSPGCL and increase in the PLF to 80% will avoid the excess burden on consumers. He also requested that all additional and expensive Power Purchase Agreements should be permanently cancelled on immediate basis.

2.5.7. Shri. S.B.P. Kulkarni of Menon Pistons Ltd.; Consumers from Gimatex Industries Pvt. Ltd. and Unique Industries stated that the various PPAs signed by MSEDCL led to the availability of excess energy. Therefore, new and costly PPAs should be withdrawn in the interest of public at large.

2.5.8. Shri. Sharad V. Kulkarni and others stated that due to MSEDCL contracting PPA's resulting in excess power, and consumers shall bear extra 35 Paisa per unit as fixed cost even if electricity is not purchased. He has also sought justification on why consumers should bear the cost of MSEDCL’s inefficiency.

2.5.9. Shri. Raghunath Kaparthi, of M/s Balaji Electrosmelters Ltd., and others stated that MSEDCL should carefully plan long term, medium term and short-term power purchases in future. It is not advisable to make long term renewable purchase as chances of falling prices are more.

2.5.10. Shri. Suketu Shah of Alloy Steel Producers Association of India, Shri. Vipin G Jain and Shri. Dilipkumar Pachpande of Mahindra Sanyo stated MSEDCL has submitted that there is a variation of Rs. 398 Crores because of variation in generation from RE sources. He also stated that MSEDCL should explain the reason for high purchase price from RE sources and requested the Commission to consider such reasons while allowing power purchase cost. He also requested the Commission to disallow the cost pertaining to loss on sale of surplus power.

2.5.11. M/s. Shree Components and CR Jamdar stated that MSEDCL has purchased excess electricity and has excess power available. However, consumers should pay for fixed cost of around 35 paisa per unit in FY 2017-18 and 31 paisa per unit in FY 2018-19.

**Power Purchase from Other Generators**

2.5.12. Shri. Veejay Lad of Grahak Panchayat Maharashtra stated that due to coal shortage, as on date, 14 Units of MSPGCL are not generating power and MSEDCL should ultimately purchase power from other generating station on a higher cost. This excess cost on power purchase, burdened on to the consumers.

**Availability of Excess Power**

2.5.13. Shri. Samir Sane of Laghu Udyog Bharti, Shri. Pratap Ganpatrao Hogade of Maharshtra Veej Grahak Sanghatana (MVGS) and Consumers from N.K Minda Group of Industries stated that there is excess power tied up from different generators of MSPGCL because of which MSEDCL has excess power available. However, consumers have not used and in consequence of which consumers shall pay 35 paisa per unit in FY 2017-18 and

31 paisa per unit in FY 2018-19. They in-turn added, due to delayed payment charges from distribution companies to generators, interest on delayed payment gets accumulated. Due to this, there is huge impact on tariff (of more than Rs. 200 Crores). Hence, loss shall be borne by the consumers, and the same should be disallowed.

***MSEDCL's Reply***

2.5.14. On reply to Power Purchase as per MoD, MSEDCL stated that it has been able to efficiently reduce the average power purchase cost by taking numerous initiatives. MSEDCL strictly adheres to the merit order dispatch for scheduling of power. MSEDCL has also backed down/zero scheduling of units with high variable cost. MSEDCL is also reducing the power purchase cost with purchase of cheaper short-term power from open market. Also, to take the benefit of falling Renewable Energy tariffs, MSEDCL is procuring the entire RE power only through competitive bidding.

2.5.15. For last few years, the actual growth rates in energy consumption by various categories has been far less than the growth rates considered by the Commission while approving the ARR for MSEDCL resulting into surplus power situation. MSEDCL has been selling some of the surplus power on short term basis to reduce the impact of surplus power and the benefit of same is being passed on to consumers through tariff.

2.5.16. While replying to query on Cost of Supply of Power being same for all consumers, yet the tariff being different MSEDCL stated that the reason for the tariff being different for different categories are due to consideration of various factors such as socio-economic conditions, ability to pay, cross-subsidy structure etc. EA 2003 and National Tariff Policy provide for gradual reduction of cross subsidy to bring the tariff of all categories within ± 20% of Average Cost of Supply. Till the time cross subsidies are eliminated, the tariff for all categories cannot be same for the socio-economic reasons.

2.5.17. While stating about surplus power management MSEDCL has stated that, there is a surplus power available with it and therefore there is a need to implement innovative schemes for boosting power demand more particularly in subsidizing categories. As a result, any benefit of increase in sales in subsidizing categories due to such innovative measures will get passed on to all its consumers by way of reduction in tariff in future. Further, the provision in Section 62(3) provides for differentiation according to the total consumption of electricity during any specified period. Accordingly, MSEDCL has proposed a new tariff category with separate tariff for Green Field projects for a period of three years. MSEDCL has explored all available possibilities to sell the surplus power. MSEDCL mainly opted following options to sell surplus power.

2.5.18. Replying to Power sale through participating in short-term power purchase tender MSEDCL submitted that it has been participating in the tender floated by various utilities. In FY 2017-18, MSEDCL has sold 161.77 MUs through participation in short term power purchase tenders.

2.5.19. For queries raised on Power sale through Power Exchanges MSEDCL stated that it has been selling its surplus power on day ahead basis as and when available through Power Exchanges. In FY 2017-18, MSEDCL sold 418.19 MUs through Power Exchanges.

2.5.20. On banking arrangement, MSEDCL stated it has exercised the option of Banking of Power with the utilities. Under the Banking arrangement, MSEDCL has exported 377.495 MUs.

2.5.21. MSEDCL was carrying out load shedding upto FY 2012-13 mainly owing to insufficient availability of power. MSEDCL entered into long term supply agreements for catering to the demand up to FY 2025 by considering the then prevailing power demand-supply situation and growth rate of 8% in electricity demand as forecasted in the 17th Energy Power Survey (17th EPS) published by Central Electricity Authority.

2.5.22. MSEDCL entered into long term PPAs with MSPGCL for 13627 MW, Central Sector Share 5313 MW, Adani 3085 MW, EMCO 200 MW, CGPL 760 MW, JSW 300 MW and Rattan India 1200 MW. Further, MSEDCL has also signed Long Term PPAs with new and Renewable sources for 6,222 MW and with other hydro projects. Thus, in total, MSEDCL's ## PPAs are for 31,197 MW. However, the actual average growth in electricity demand in last four years is only 5.6%. This resulted into surplus power situation for MSEDCL.

2.5.23. As per the demand and availability of power from contracted sources, MSEDCL has scheduled low cost power as per the Merit Order Despatch (MOD) principle. After meeting its demand, MSEDCL backs down high variable cost plants up to technical minimum or gives them Zero Schedule. However, as per the PPA terms MSEDCL has to pay the fixed charges to the Generators.

2.5.24. MSEDCL is taking out all efforts to minimize the burden of Capacity Charges on common consumers. MSEDCL is trying to sell the surplus power on short term basis by participating on DEEP e-Bidding portal of MoP and through Power Exchanges

(PXIL & IEX). In FY 2017-18, MSEDCL has sold ~580 MUs by short-term bidding and through IEX and generated revenue of ~Rs 177 Crores. In FY 2018-19 (upto May 18), MSEDCL has sold ~160 MUs and generated revenue of ~75 Crores. This has helped MSEDCL in reducing the burden of Capacity Charges on consumers to that extent.

***Commission's Analysis & Ruling***

2.5.25. The Commission has approved the power purchase expenses for FY 2015-16 and FY 2016-17 after prudence check, which included reconciliation of cost with MSPGCL Audited Accounts and verification of supplementary bills for various Generating Stations. The detailed analysis is set out in Section 3.5 and Section 3.5of this Order.

2.5.26. The Commission's observations and views on the power purchase cost and quantum for FY 2015-16 and FY 2016-17 are set out in Section 3.5 and Section 4.5 of this Order.

2.5.27. As regards projections of procurement from MSPGCL, the Commission has analysed the Station-wise cost of generation of MSPGCL in its MYT Order in Case No. 46 of 2016.

2.5.28. The Commission has also taken into consideration the optimal power procurement mix considering the MOD principles for least-cost procurement. For factoring the seasonal and monthly variations in demand and supply, the Commission has analysed the month-wise MOD. Availability from new Generating Stations has been taken considering realistic dates of commissioning. The Commission's views and analysis of MSEDCL's power purchase quantum and costs, including from RE sources, for FY 2018-19 & FY 2019-20 are set out in Chapter 6 of this Order.

2.5.29. As regards surplus energy, MSEDCL should aggressively explore possibilities of selling the surplus power through short-term/ medium-term bilateral contracts or through Power Exchanges in an optimal and efficient combination and manner, so that its net power procurement costs are reduced.

## 2.6. Voltage Wise Cost of Supply (VCoS)

***Objections/Suggestions***

2.6.1. Shri. J.T Ganatra of Mukand Infinite Resolve and Alloy Steel Producers Association of India (ASPAI) stated that, in reply to Appeal No. 230 of 2015, the Commission under Affidavit has reiterated its commitment to determine VCoS and cited that in last tariff

Order, the Commission was constrained with the data for having reference levels to determine the VCoS. The Commission had also submitted before the ATE that the same would be done in the next Tariff Order. Hence, it is requested the Commission to implement VCoS in tariff design of MSEDCL. They also stated that the consequences of high Tariff for Industrial Category would impact the State economy at large and the Commission needs to look at the reasonability of cost and inefficiencies of MSEDCL. M/s Mukand Infinite Resolve has also pointed that based on the data as submitted by HT, EHV consumers, their cost of supply is low, and the same has been proved in a study commissioned by MSEDCL. He has also requested that tariff for HT and EHV consumers should be reduced and should be aligned with the VCoS, i.e., Rs. 5.52 – Rs. 5.65 per unit of energy.

***MSEDCL's Reply***

2.6.2. The cost of supplying power at a particular voltage level is dependent on the voltage of supply, demand pattern, energy consumption, losses attributable to the particular voltage level etc. VCoS study seeks to allocate all the costs of a utility to the voltage level it serves. Such allocation reflects the costs attributable to electricity supplied and related services.

2.6.3. The Appellate Tribunal in its Judgment dated 24 March 2015, highlighted the need to segregate costs incurred by Licensees to serve a consumer on particular voltage level. Further, the Commission has issued MYT Order in Case No 48 of 2016 on 3rd November 2016. In the same Order, the Commission observed that, it is necessary to undertake detailed analysis of Voltage-wise Cost of Supply (VCoS) and directed MSEDCL to submit the outcome of its VCoS study at the time of MTR

2.6.4. MSEDCL further submits that a systematic approach to the VCoS study involves three steps i.e. functionalisation, classification and allocation of costs to various voltage levels.

a) **Functionalisation of Costs:** The first stage of VCoS study involves functionalisation of all the costs of the utility to various functions such as power purchase cost and distribution (termed as "functionalisation"). The power purchase costs include the costs of transmission of power from the generating stations to the delivery point as per Bulk Supply Agreement.

b) **Classification of Costs:** The costs so functionalized is further classified into three categories such as demand, energy and customer/service related.

**i.** **Demand Cost:** The peak demand should be met by the capacity of generation, transmission and distribution. Hence, the cost related to capacity creation is termed as demand related cost.

**ii.** **Energy Cost:** Energy related costs depend on the quantum of consumption of the users. Such costs are generally termed as variable cost and include costs such as variable cost of generation, interest on working capital etc.

**iii.** **Customer Cost:** Customer related costs are directly related to the services provided to customers. However, fixed in nature, these costs are associated with the functions of metering, service connection and other customer related activities.

c) **Allocation of Costs**: The functionalized and classified costs are then allocated to various voltage levels of the utility based on the allocation factor derived from demand, consumption of energy and number of customers. Such allocation arrives at the VCoS. The classified costs may be allocated on the basis on the differentiated allocation factors. The energy usage and a measure of demand (peak, average etc.) within such periods form the basis for allocation of costs. In this study various allocation factors have been devised based on following:

**i.** **Demand related Costs:** These costs are worked on the basis of percentage contribution of non-coincident demand, average demand and excess demand in its respective demand component.

**ii.** **Energy Related Costs:** These allocation factors are derived based on the ratio of energy input at particular voltage level (Energy input = Energy sales + Losses).

**iii.** **Customer related Costs:** To address the variance in service cost across voltage levels, voltage level wise weightages have been derived to determine allocation factors for customer related costs. The weightages are a function of two parameters - sales per customer and load per customer. Costs are allocated as per the derived weightages.(nothing is clear to me as to what MSEDCL wants to say)

***Commission's Analysis & Ruling***

2.6.5. The Commission has dealt with this issue by notifying wheeling charges based on the voltage level. The detailed working of the voltage level wise wheeling charge is covered in the Chapter 9 of this Order.

## 2.7. ARR Components

***Objections/Suggestions***

**Operations and Maintenance (O&M)**

2.7.1. Prayas (Energy Group), Institutional Consumer Representative stated that O&M trends show that actual O&M is much lower than the norms. There is a difference of Rs. 900 – Rs.1000 Crores , a trend indicating improved operational efficiency and this variation should be factored in while deciding the O&M benchmark for the next Control Period. Prayas further requested the Commission to ensure that savings in O&M expenses should not come at the cost of repair and maintenance related work.

2.7.2. Shri. Veejay Lad of Grahak Panchayat Maharashtra stated that MSEDCL should have control in its expenses such as O&M Expenses, etc. MSEDCL should take necessary actions against the unauthorised connections, theft of electricity and huge transmission losses in the system, which has been neglected by MSEDCL's staff, due which consumers are burdened with the revenue loss accumulated due to such negligence.

2.7.3. Shri. Balwant Kulkarni stated that the electricity cables, poles and other operational assets (D.P and Transformers) have become old and it requires maintenance. The cables are not properly laid causing transmission losses and sometimes leads to short-circuit.

2.7.4. Shri. Arun Waghmare stated that for the Non-controllable expenses, there could be some acceptable increase in the electricity rates between 5-7%. Of the total expenses of MSEDCL, almost 70-80% cost goes to purchase of electricity. However, such un-controllable costs are not being reflected in the present proposal submitted by MSEDCL. As a result, there will not be any increase for such un-controllable expenses in the near future, which can be misleading to its consumers.

2.7.5. Shri. Vipin G Jain of Mahindra Sanyo and M/s Alloy Steel Producers Association of India (ASPAI) stated that from the Audited Accounts it has been noticed that MSEDCL has been capitalising Employee and A&G expenses on ad-hoc basis @15% of additions of capex without identifying such expenses specifically attributable to construction work or not. Hence, the Commission is requested to disallow such expenses from capitalisation and capex till the time MSEDCL provides actual expenses. It has also been requested that MSEDCL should confirm whether the book value of stores is towards R&M or capital works. If it also includes the capital work then, MSEDCL should segregate the same and reduce it while computing the interest on working capital.

**Interest on Working Capital and Consumers' Security Deposit**

2.7.6. Shri. CA Arun Velani, Shri. Umesh M Malviya and others stated that since incorporation auditors have stated that there is a difference in the security deposits as per the books of accounts and IT Database records. In the auditor report for FY 2016-2017, the auditors have reported a difference of Rs. 1,618 Lakhs. He has also requested a forensic audit to identify the same.

2.7.7. Shri. Dilip Kumar Pachpande from Mahindra Sanyo, Shri. Suketu Shah from Alloy Steel Producers Association of India (ASPAI) and others stated that for actual interest rate for working capital; MSEDCL should provide the actual rate of interest on working capital for FY 2016 to FY 2018. Hence, he requested the Commission to consider the actual rate of interest on working capital for allowing carrying cost on revenue gaps, if it is lower than rates prescribed in Regulations. It may be noted that under previous Regulations, there was no provision for carrying cost, hence in those years actual rates of working capital shall be considered for allowing interest expenses.

2.7.8. Members of Grahak Panchayat Maharashtra has requested the Commission to amend the Regulation 11.2 of the (Electricity Supply Code and Other Conditions of Supply) Regulations, 2005, where the, amount of security referred to in Regulation 11.1 above shall be equivalent to the average of two months of billing instead of three months. .

2.7.9. Shri. Mayur Bangdiya from Prabhatinagar Sustainable Energy Private Limited has asked for computation of security deposit for all types of consumers with reference to proposed changes in schedule of charges.

**Depreciation**

2.7.10. Shri. Dilip Kumar Pachpande from Mahindra Sanyo, Shri. Suketu Shah from Alloy Steel Producers Association of India (ASPAI) and others referred to the Audited accounts that shows depreciation has not been worked out correctly due to discrepancy in the date o put to use of various assets. Hence, he requested the Commission not to allow depreciation till the time MSEDCL submits the corrected data.

**Return on Equity**

2.7.11. Shri. Viraj Wade, Shri. S.B.P. Kulkarni of Menon Pistons Ltd. and others have stated that the State Government earlier had approved to accept Return on Equity 7.5% instead of 15.5%. This may be approved to reduce the revenue losses of MSEDCL by yearly Rs. 900 crores or more.

2.7.12. Shri. Dilipkumar Pachpande Mahindra Sanyo, Alloy Steel Producers Association of India (ASPAI) stated that on analysis of Audited Accounts for FY 2016-17,it is noted that there is actually loss of Rs. 3,383 Crores and Rs. 3,176 Crores respectively. Therefore, there is no case that MSEDCL has actually infused that kind of internal accrual to fund the capital expenditure. He also stated that MSEDCL might have taken the working capital loan or has deferred the payment of vendors for such capex. Therefore, there is no need to consider the said amount towards equity. He also requested the Commission that the said amount shall be considered as loan and accordingly equity should be limited to Rs. 337 Crores for FY 2016 and Rs. 343.92 Crores for FY 2017. Since MSEDCL is a Government Company, hence it should be in no loss/no profit status and ROE should not be considered.

2.7.13. Shri. Samir Sane of Laghu Udyog Charti, Shri Pratap Ganpatrao Hogade Maharashtra Veej Grahak Sanghatana (MVGS), N K Minda Group and M/s. Shree Components & CR Jamdar stated that RoE is fixed at 15.5%. This amount is equivalent to Rs. 1,800 Crores in the current year. The Maharashtra Government has ordered to reduce RoE to 7.5%. MSEDCL in the current Petition has considered the RoE as 15.5%. There would be a saving of Rs. 800 Crores if RoE is reduced to 7.5 %. It is requested to MSEDCL to restore RoE or order MSEDCL to reduce RoE.

***MSEDCL's Reply***

2.7.14. On reply to queries related to RoE claimed at 7.5% MSEDCL has stated that it has claimed RoE as per the provisions of the MYT regulations, 2015.

2.7.15. While replying to objections regarding claim of ARR being not as per rule MSEDCL has stated that ARR has been computed and duly submitted to the Commission strictly in accordance with the MYT Regulations 2015.

2.7.16. It is to submit that, to recover the revenue gap due to all above mentioned reasons, MSEDCL proposed the Tariff hike. Even though increase in Tariff of various categories of consumers is inevitable due to the above-mentioned reasons and other essential legitimate expenses, MSEDCL takes appropriate precautions/measures to limit the rise in Tariff rates by reducing distribution losses, accurate billing by proper meter reading of utilized energy, increasing efficiency , utilizing latest technology, liming O&M expenses and implementing efficient management schemes.

2.7.17. On reply to objections, on Tariff Shock, MSEDCL has stated that, it is pertinent to note that though the revenue gap of Rs 30,842 Crores claimed by MSEDCL in its MTR Petition is to be recovered in two years, it is actually a gap for the period of five years from FY 2015-16 to FY 2019-20, i.e., average gap of Rs. 6,000 Crores per year.

2.7.18. **GFA 22 KV:** MSEDCL states that it does not have segregation between GFA of 22/11 KV level and LT level.

2.7.19. The mechanism of dealing with security deposit is already in place for billing the consumers. The SD amount has been appropriately considered in the calculation of working capital as per MYT Regulations of the Commission.

2.7.20. MSEDCL has preferred appeal against the Commission's Order Dated: 20 August 2014, approving indicative compensatory fuel charge in Appellate Tribunal for Electricity in which it has remanded back the case to the Commission for fresh hearing in view of Supreme Court judgment in Coastal Gujrat Power Ltd. (CGPL) matter on similar grounds. The case is pending for hearing before the Commission. Hence, the consequent financial impact of Rs. 39,1216 Crores approx., is considered as contingent Liability.

***Commission's Analysis & Ruling***

2.7.21. The Commission has analysed each head of expense and revenue claimed by MSEDCL and its proposed treatment, and accordingly determined the ARR . the Revenue Gap / Surplus over the 3rd Control Period in accordance with the MYT Regulations. The Commission's analysis of the Revenue Gap or Surplus is set out in Chapter 6 and 7 of this Order.

2.7.22. The Commission has taken the O&M expenses for FY 2015-16 and FY 2016-17 for the Distribution Wires and Retail Supply Business separately as per the MYT Regulations, 2011 and the MYT Regulations, 2015 respectively. It has treated O&M expenses as a controllable parameter and accordingly considered the sharing of gains and losses for FY 2015-16 and FY 2016-17 in accordance with the appropriate Regulations. The Commission's view and analysis are set out in Chapters 3 and 4 of this Order.

2.7.23. For FY 2017-18 and the 3rd Control Period, although MSEDCL has claimed O&M expenses applying certain inflation rates, it has also submitted the workings of O&M expenses as per the norms in the MYT Regulations 2015 along with relevant amendments.

2.7.24. Though the expenses claimed by MSEDCL are higher than the norms, the commission does not find any justification for the same. Therefore, the Commission has considered the O&M expenses for the 3rd Control Period as per the MYT Regulations, 2015. The O&M expenses allowed over this Period have been detailed in Chapter 5 of this Order.

2.7.25. The Commission has calculated the IoWC and interest on Consumer Security Deposit in accordance with the norms specified in the MYT Regulations. The computation of normative IoWC for FY 2015-16 and FY 2016-17, computation of efficiency gain on this account, and its sharing between MSEDCL and consumers have been elaborated in Sections 3.11 and 3.30 of this Order.

2.7.26. For FY 2017-18 and for the 3rd Control Period, the Commission's analysis and ruling on IoWC and Consumer Security Deposit are elaborated in Section 4.11.

2.7.27. As regards, the CSD to be considered for FY 2015-16 and FY 2016-17, the Commission has verified the Audited Accounts and considered it while allowing the IoWC in the truing-up sections. The ARR components have been allowed as per the MYT Regulations of respective years.

2.7.28. The Commission's analysis of the Depreciation claimed by MSEDCL is set out in sections for FY 2015-16 and FY 2016-17.

2.7.29. The Commission has noted MSEDCL's submission regarding provisioning and treatment of Gratuity and Leave Encashment benefits in line with the Accounting Standards.

## 2.8. KVAh based Billing

***Objections/Suggestions***

2.8.1. Shri. Sanjay K. Rathi stated that MSEDCL has proposed kVAh billing system. As a result, power factor incentive will be abolished resulting in 7% rise in overall bill. This will affect their competition with other states due to high cost of electricity. Hence, he has requested the Commission to revise the cost.

2.8.2. Vidharbha Industries Association (VIA) has opposed kVAh billing on several grounds as mentioned below:

1) Since MYT Regulations are framed considering kWh as a unit for sale of electricity and the entire MTR Petition is filed under MYT Regulations 2015. VIA states that the Commission in Case 94 of 2015 have ruled based on the Hon'ble Supreme Court Order that the Orders of the Commission has no jurisdiction to change the unit of measurement of energy.

2) The Provision of MTR is made with an intention to allow Truing-up of revenue deficit, if any. The proposals including changing billing unit and tariff philosophy falls within the scope of review of Conduct of Business Regulations, 2004. All such proposals are beyond the scope of MTR.

3) VIA stated that kVAh is a derived quantity. It violates legal metrology Act, which comes under the Consumer Affair Department.

4) MSEDCL is purchasing power in terms of kWh units and proposed to sale kVAh units which are against the principles of any business.

5) kVAh tariffs are never equitable - Reactive power is a locally-generated phenomena. The kVAh drawl by a consumer for the same connected load will vary depending on the voltage at consumer premises. As voltage at which power is delivered to consumers is under control of the Distribution Company and not consumers, it is unethical and unequitable to bill consumers as per their kVAh drawl. kWh drawl by consumers are also affected by voltages, but a consumer does not have to "adjust" or "compensate" his consumption when voltages are poor and still land himself or herself at a financial disadvantage.

6) A poor power factor penalty (or demand overshoot) is more appropriate than kVAh based tariffs because penalties generally have two very fair components (i) a limit for which there is no penalty – a warning factor (ii) a penalty for violations beyond the allowable limit – that is a penal component. A kVAh tariff on the other hand does not

give any allowable limit as a warning. It is “impossible to maintain” magic figure of a perfect unity power factor.

7) In availability-based tariffs, maintenance of MW drawl schedules, generation schedules, drawls from the Grid etc. are to be paid based on pre-decided contracts, which are in MW and kWh. The deviation from schedules is to be measured and charged at rates, which are related to the incremental cost of generation in the system, such incremental cost being determined from the grid frequency. It may be noted that here also, the stress (or commercial deterrent) is based on kWh and not kVAh. The voltage linked reactive drawls (in the proposed inter-utility tariffs) are more in nature of a penalty than a tariff. Hence, the Commission is requested not to consider kVAh billing which is non-technical and illegal.

2.8.3. Shri. S.B.P. Kulkarni from Menon Pistons Limited, M/s Gimatex Industries Pvt Ltd., Unique Industries and Shri. Ravindra Vaidya of Laghu Udyog Bharti, M/s Mahindra Sanyo, M/s Alloy Steel Producers Association of India (ASPAI) and others stated that MSEDCL's kVAh billing methodology for HT Industrial Consumer does not provide power factor incentive, which leads to additional impact of 7% hike. Due to this, the energy rates will be 1.5 times more when compared to other States. Rates of agricultural pumps would increase from 2.7 to 5 times more when compared to May 2015. Hence, they have requested the Commission to disallow the proposed increase and continue as per the rates determined in November 2016.

2.8.4. Shri. Prafulla Khinvasara of Eternity Legal for Green Energy Association stated that PF penalty applicable if PF <0.89 and PF incentive is applicable if PF>0.96. Since kWh = kVAh * PF; hence, for PF<1.00, KVAh will always be greater than kWh. Hence, for any consumer, if MSEDCL’s proposal is accepted, then almost all consumers will be paying more for same consumption in kWh billing methodology as actual PF for most consumers is <1.00. The effective increase in energy charges, i.e., no PF incentives and kVAh based billing will be 5% to 7.5% for consumers not paying PF penalties but getting PF incentives of 1% to 7% as per the existing tariff. For consumers paying PF penalties, the net increase in energy charges will be more than 15%. Hence, changing to KVAh based billing with no PF incentive tariff structure will effectively reduce the existing energy charges. He also stated that MSEDCL’s submission for PF incentive is burdening the tariff of all consumers but technically, the installed capacity/rating and maximum possible load of any industry decides the contract demand requirements. He also pointed that kVA contract demands are not decided based on the PF improvement device installation as stated by MSEDCL in its Petition. Thus, the tariff increase shown in the MTR is incorrect and does not represent the true picture. Therefore, the current tariff proposal should have shown the existing tariff with PF incentive and revised tariff in kVAh, which would have become comparable.

2.8.5. Shri. Rajkumar Bilala of Vidarbha Chamber of Commerce & Industry stated migrating from kWh to kVAh billing results in abolishing PF incentive, which creates hike in tariff by 7% to 10%.

2.8.6. Shri. S K Arora of Sunflag Steel stated that the required PF compensation is to be maintained by the consumer to avail the PF benefits or face the penalty. He is maintaining the power factor above 0.995. This helps in the stability of grid voltage regulation. Hence, the present system of kWh billing is sufficient to take care of MSEDCL's concern of KVAh billing. He also added that adoption of kVAh-based billing may require updation of the Software of consumer's meter. If the actual power factor recorded is more than 0.95, the power factor for conversion shall be limited to 0.95.

2.8.7. Shri. Vivek Dharurkar of Bharat Forge, Shri S.S Joshi of B F Utilities, Shri. Hemant Kunte of Kaygaon Paper Mills Limited and Shri. Sanjay Deshmane of Lahu Udyog Bharti stated that the abolishment of PF incentive/penalty clause was proposed during the last tariff revision but was turned down by the Commission. As the same was not approved, it is being again introduced by another method of kVAh-based billing in their area of supply. They have also requested not to introduce kVAh based billing in this MTR process. They have requested the Commission to appoint a Study Group/Committee to study the issue and then implement the recommendations of the Committee.

2.8.8. Shri. Vasant Waghmare of Waluj Industries Association, Adv. Veejay Kumar Aggarwal, Shri. Vipin G. Jain, Shri. Suketu Shah, Shri. Ajit Patil and others decided not to implement kVAh based billing in this Control Period and stated that except Telangana and Chhattisgarh, kVA based tariff is continued by providing power factor incentives in all other neighbouring States and Union Territories,. Power factor penalties are imposed below 90% power factor level. Neither incentive nor penalty is imposed between 90% to 95% power factor level in Madhya Pradesh, Gujarat, Goa and Daman & Diu. He has also stated that MSEDCL may propose kVAh tariff for agricultural consumption who are causing major thousands of Crore's losses to the

MSEDCL every year instead of proposing kVAh tariff to industrial consumers. This will incentivise agricultural consumers to install suitable capacitors on their pumps.

2.8.9. M/s Mukand Infinite Resolve stated in reference to clause 7.7.20, the present system of kWh billing is sufficient to take care of MSEDCL's concern of kVAh billing. This methodology may call for replacement of tariff meters and& MSEDCL shall always try to impose such cost on consumer which is very unfair and unethical. If the actual power factor is more than 0.95, then the actual power factor measured by the meter should be considered against the proposed limitation of 0.95. This is logical and correct. Therefore, they requested the Commission to reject the proposal of MSEDCL.

2.8.10. Shri. Manish Singh of Indian Wind Energy Association stated that the Commission should direct licensee to install new meter/reprogram existing meter of Open Access consumer at their own at the cost of consumer. Immediate implementation of kVAh billing will stop Open Access in Maharashtra. While proposing kVAh billing, MSEDCL is silent on energy adjustment of Open Access consumer. Change in kVAh tariff will certainly hold Open Access transactions in Maharashtra. Considering the above facts, InWEA requested the Commission to not allow the change in tariff philosophy as per MYT Tariff Regulations 2015 in between the Control Period of the Tariff Order.

2.8.11. Shri. S. K. Gupta of Gharda Chemicals Ltd. submitted that as a process industry, their maximum consumed load is by motor load, which is inherently reactive and will put a huge burden on industry irrespective of the power quality they receive and APFC equipment installed. Further, similar industries would be inclined to avoid the capacitors and power factor installations, which will deteriorate power quality.

2.8.12. Shri. Sanjay K. Rathi stated that MSEDCL has proposed kVAh billing system. As a result, power factor incentive will be abolished resulting in 7% rise in overall bill. He also stated that, this will affect their competition with other states due to high cost of electricity. So, he requested the Commission to revise the cost.

2.8.13. Shri. Rustom Irani from The Seafood Exporters Association of India stated that MERC has approved HT industrial rate of Rs. 8.63/unit for FY 2018-19. MSEDCL has proposed interim-hiked rate for HT, Industrial Consumers @ Rs10/unit. MSEDCL has also proposed kVAh billing system for HT consumers. If accepted, it will result in cancellation of power factor incentive resulting in additional 7% rate hike.

***MSEDCL's Reply***

2.8.14. While replying to queries based on kVAh based Billing MSEDCL submitted that it has proposed the change in billing from kWh to kVAh tariff for HT Categories. The same is in line with the recommendations of the Forum of Regulators as well as the directions of the Commission regarding kVAh billing. The prime objective of kVAh-based billing is to encourage the consumers to maintain near unity power factor to achieve loss reduction, improve system stability, power quality and improve voltage profile. By kVAh billing, the consumers will be encouraged to adopt energy efficiency programs and will be benefited by reduced electricity bills.

2.8.15. Further, MSEDCL has proposed the kVAh based billing in view of the following advantages:

i. The kVAh based billing has an inbuilt incentive/penalty mechanism and therefore separate mechanism for the PF incentive/penalty is no more required. It will encourage the consumers to improve the power factor by way of reactive power compensation at the load point itself.

ii. With better power factor, the line loading shall be lower for the same kW requirement leading to lower transmission as well as distribution losses.

iii. Power supply quality will be improved.

iv. It is a win-win proposal for both - consumers and MSEDCL.

2.8.16. The kVAh billing for HT consumers is already implemented in many other states. MSEDCL will propose kVAh based billing for other categories in subsequent Petitions for coming years.

2.8.17. MSEDCL while stating about kVAh based billing in agriculture submitted that it has proposed the kVAh based billing to HT category considering the lower number of consumers and higher awareness about the advantages of maintaining PF. Further, regarding the power factor of agricultural load, MSEDCL has already taken consumer awareness programs and given live demonstrations of benefit of installation of capacitors at agricultural pumps to consumers. MSEDCL has also planned to install Automated Power Factor Controller (APFC) capacitor banks in all agricultural dominated Distribution Substations and line capacitors on agricultural separated feeders. Detailed project report is already submitted to National Load dispatch Centre for funding through Power Sector Development Fund (PSDF Scheme). MSEDCL will propose kVAh based billing for other consumers in subsequent Petitions.

2.8.18. On queries regarding necessities for detailed technical discussion on kVAh based billing MSEDCL has submitted that the kVAh based billing is already implemented in various other states from many years. Further, Forum of Regulators, MERC, and the Hon'ble ATE etc. have also emphasized the benefits of the kVAh-based billing. Hence, there is no point in postponing the implementation of the same any further. Improving the power factor by way of reactive power compensation at the load point itself is important for the stability of the system and the HT consumers who are maintaining the unity PF may not be affected by kVAh billing. There is no requirement of technical discussion. It will only result in delay.

***Commission's Analysis & Ruling***

2.8.19. The Commission has noted the objections in this regard, and MSEDCL's replies. The Commission is of the view that the kVAh billing may not appropriate at this juncture of time as it has to be done in a gradual manner to avoid any tariff shock due to such change. MSEDCL may submit its proposal for kVAh billing in next control period. The Commission intends to implement kVAh billing to all HT consumer and LT consumers having load above 20 kW from 1 April, 2020. All Distribution Licensees in State are required to take necessary steps such as meter replacement, if required, preparedness of billing software etc. Also, wherever possible, Distribution Licensee shall start collecting category-wise energy consumption details in kVAh terms and submit it during the next Tariff determination process. Though the Commission agrees that the benefits and its technical superiority for measuring energy, it is felt that sufficient time needs to be given to MSEDCL and also the consumers to change over the billing kVAh method. The Commission directs MSEDCL to educate the consumers and take all necessary steps to ensure that all the consumers are billed by kVAh method from the next MYT i.e. from 1st April 2020. The Commission expects that all out efforts will be made and the mechanism for implementation of kVAh billing would be ready from 1st April 2020.

## 2.9. Load Factor Incentive and Power Factor Incentive

***Objections/Suggestions***

2.9.1. Shri. Ajay Govind Baheti from Bhagwati Steel Cast Pvt Ltd, Shri. Raghunath Kaparthi, M/s Balaji Electrosmelters Ltd., Adv. Veejay Kumar Aggarwal and others stated that the load factor incentives are significantly important for power intensive industries and places MSME and large industries on same footing without any discrimination. They also stated that in Chhattisgarh power tariffs for FY 2018-19 has decreased and in addition, there are incentives prevalent. Madhya Pradesh Electricity Regulatory Commission (MPERC) realised the importance of these incentives and has introduced differential power tariffs on 50% load factor benchmark. For states like Gujarat, Andhra Pradesh, Telangana, Goa and Diu & Daman; there are no Load factor incentives, but' power tariff is very low compared to MSEDCL's existing tariff. Therefore, they requested the Commission to create separate category for power intensive Ferro Alloy and steel industries with lower tariff in the order. Therefore it is requested is not to change any modification in existing load factor incentive (LFI). The Commission may examine LFI from 65% as done in other States like Chhattisgarh which results in availing these incentives by more industries by achieving efficiency and increased power consumption.

2.9.2. M/s Eternity legal of Green Energy Association has referred to Case No. 110 of 2017 where the Commission has directed the Tata Power Company (Distribution) to provide Power factor Incentive (PFI) to Mumbai International Airport Pvt. Ltd. and other similar consumers on the charges it levies on the power sourced by them through Open Access. However, in recent Orders in Case No: 135, 136, 137, 150,151 and 155 of 2018, the Commission did not grant relief to Petitioners from recovering PFI from MSEDCL stating that MSEDCL is not levying Power factor penalty hence PFI is not applicable. They also stated that PFI is encouraging customers to maintain high level to reduce losses. In addition, if PFI is withdrawn, the very purpose will be lost. Hence, it requested the Commission to rationalize incentives/penalties as proposed by MSEDCL.

2.9.3. Shri. S. K. Arora of Sunflag Steel and Shri J T Ghatara from Mukand Infinite Resolve, Shri Ravindra Vaidya from Lahu Udyog Bharati and others requested to keep the load factor incentive ceiling to 15%. In addition, it is required that the load factor for EAF based Alloy Steel Industries be reduced to a minimum level of 50%. They also stated that the load factor incentive is not practically useful for Arc furnace-based Steel Plant. Due to its inherent process requirement, the average demand is much lower than contract demand. Hence, it is required that the load factor for EAF based alloy steel plant be reduced to a minimum level of 50%, against the present level of 75%. Since these incentives motivate consumers to generate reactive power locally and reduce reactive load on Transmission lines, transformers and generators by maintaining power factor close to unity. To achieve this, consumers should make an investment in capacitor banks and harmonic filters. Hence, they have requested the Commission that proposed changes be disallowed.

2.9.4. Shri. Ramchandra Bhogale from Chamber of Marathwada Industries and Agriculture (CMIA) stated that Power Intensive and high power consuming industries are availing these incentives. Load Factor incentive is an important tool for boosting up of power consumption by industries. At present, MSEDCL claims to have surplus power and are selling the same to adjacent states at very cheaper rates, which is lower than present industrial tariff. In such situations and as per common trade practice MSEDCL must promote industries who are buying power in bulk and steady manner by giving load factor incentives. Concerning power factor, needless to mention that by maintaining better power factor the overall distribution and transmission system is benefited with operations that are more efficient. That was the reason the Commission had though fully introduced this incentive.

2.9.5. Shri. Hemant A. Kapadia - Consumer Representative, Shri Ashok M. Swami, Shri. Vasant Waghmare of Waluj Industries Association and others states that MSEDCL on one side claims that it has surplus power availability but on the other side proposes to increase the load factor incentive limit of consumers who gives them more revenue which is against normal trade practice. He also suggested that MSECL should propose more incentives to these prestigious consumers and requests the Commission not to make any changes in load factor incentive structure.

2.9.6. Shri Sanjay K Rathi stated MSEDCL proposed load factor incentive will be starting from 85% it will be max 7%, which is now starting from 76% and max 15%. Due to this the increase in electricity bill will be 8%. In states like Chhattisgarh it is 65% to 15% which boost the efficiency and electricity usage of HT industry in that states

***MSEDCL's Reply***

2.9.7. Load Factor Incentive: MSEDCL submits that the reason behind introduction of the load factor incentive was to motivate consumers towards utilization of 100% sanctioned/contracted load. However, rationalization of energy charge including bulk consumption discount and revision in billing demand will act as a motive for consumers to effectively plan and utilize the power. Therefore, MSEDCL proposed the LF incentive upto 7%. It is also important to note that various SERCs in other States have given very low or no incentives for Load factor. A state wise comparison is shown in the following table.

***Table 2-3: State wise Comparison of Load factor Incentives***

| Particulars | MSEDCL | Andhra Pradesh | Gujarat | Madhya Pradesh | Karnataka | Tamil Nadu |
|---|---|---|---|---|---|---|
| Load Factor Incentives | Maximum 15% of Energy Charges | NA | NA | 12-36 Paisa per unit | NA | NA |

*(NA: Not Applicable)*

2.9.8. MSEDCL submits that even after discontinuation of PF incentive and rationalisation of LF incentive, the total incentives available for its consumers will still be higher than many other states.

***Commission's Analysis & Ruling***

2.9.9. Load Factor Incentive (up to 15% of energy charge) has been introduced by the Commission for incentivising bulk consumers in the State to maintain steady demand on the system. However, Load Factor Incentive is not applicable in a month when Billing Demand exceeds the Contract Demand. As definition of Billing Demand excludes the demand recorded during the off peak hours of 2200 to 0600, and considering rebate in ToD tariff applicable at off-peak hours, the consumers tend to exceed their contract demand during this period while paying a small amount towards contract demand penalty while availing Load Factor Incentive.

2.9.10. In order to avoid such misuse of the provision, the Commission, in its Tariff Order, has stipulated that if a consumer exceeds its Contract Demand in more than three occasions in a Calendar Year, the Distribution Licensee may take corrective action of restating Contract Demand as per Supply Code Regulations, 2005. However, as per provision of Supply Code Regulation, 2005, contract demand can be restated only on receiving an application from the consumer in this respect. The Commission has come across the cases wherein consumers have refused to cooperate with the Distribution Licensee for restating their Contract Demand.

2.9.11. In order to ensure secure operation of electricity grid, it is critical that every constituent of the system acts within its assigned boundaries. Intentional violation of Contract Demand limit by individual consumer for its own financial gain may lead to a system failure, which may affect other consumers. Hence, the Commission is constrained to restrict the Load Factor Incentive to only those consumers who do not exceed their Contract Demand during the month.

2.9.12. Accordingly, the Commission rules that Load Factor Incentive should not be applicable for the month if the consumer exceeds its Contract Demand in that month. Further, the Consumers exceeding Contract demand during the off-peak hours (2200 hrs to 0600 hrs) would also not be eligible for Load factor Incentive for that month.

2.9.13. As regards Power Factor Incentive/Penalty mechanism, the Commission observes that since the first Tariff Order issued in year 2000, power factor incentive / penalty is included in retail tariff for incentivising the consumers to take corrective measures of improving their power factor. As per current Tariff Order, 7% rebate in monthly electricity bill amount is provided for achieving unity power factor.

2.9.14. Over the period, consumers in Maharashtra have taken appropriate measures to maintain their power factor near Unity. This helps the consumers and the Distribution Licensee as the consumers get rebate in their monthly electricity bill while the Licensee observes improvement in system power factor.

2.9.15. Though PF Incentive mechanism encourages the consumer to improve its lagging power factor and maintain it to unity, there are cases of over compensation causing leading power factor. There is no clarity about leading power factor in existing Tariff Order. As is the case with lagging power factor, higher magnitude of leading power factor is also not desirable. Therefore, the Commission introduces penalty for leading power factor also. This penalty will be applicable from prospective effect. As a first step towards the implementation of kVAh billing system, which is devoid of any separate incentive / penalty for power factor, the Commission has decided to reduce the existing PF Incentive / Penalty by 50%. Accordingly, maximum PF Incentive, which is 7% at Unity power factor, has been reduced to 3.5%. Similarly, Penalty for lower power factor has been rationalised.

## 2.10. Metering Faults, Meter Reading and Billing Issues

***Objections/Suggestions***

2.10.1. Shri. Raghunath Kaparthi, M/s Balaji Electrosmelters Ltd., and several others stated that many residential and commercial consumers are using remotes for controlling their meters and resorting to theft. In Biwandi Area, Torrent Power Ltd. changed meters forcefully by taking the help of Security Personnel and brought down Distribution Losses drastically in record period. Manipur brought down Distribution Losses from 58% to 26% by installing prepaid meters. He requested the Commission to direct to install prepaid meters on residential and commercial consumers in theft prone areas and allow required capex for this purpose. Security deposit may be adjusted on this account from payment to the extent of prepaid meters and need not be demanded from consumers.

2.10.2. Shri. Mayur Bangdiya of Prabhatinagar Sustainable Energy Pvt. Ltd. has referred to MERC (Net Metering for Roof-top Solar PV Systems) Regulations, 2015 wherein MSEDCL should supply, test and install generation and net meters at its own cost. He stated that net meters are not being supplied by MSEDCL and requested the Commission to direct MSEDCL to make net meters available at sub-division/division level in a time bound manner. He also stated that for net meters, which are purchased by the consumers, MSEDCL charges twice for testing the same as it is a bidirectional meter.

2.10.3. Shri. Dharmesh Parar has raised a query regarding possible reasons on change in no. of days for computation of bill where bill should be for only 30 days. He also requested the Commission to avoid extra charges for cases where newly installed meters give improper reading. Meter maintenance cost is Rs. 150 while newly proposed charge is Rs. 300. He also questioned that if new meters are not properly calibrated then why should consumer bear such cost.

2.10.4. Shri. Arun Waghmare stated that as per Krushi Sangivani Yojna the electricity bills of farmers have been scraped out. However, the bills provided are not correct, extra HP electricity is being charged which are not being used. Moreover, without any prior notice, the supply of electricity is disconnected contrary to the fact that bills are always exorbitantly high.

2.10.5. Shri. Sanjay K. Rathi stated that, a similar approach as in Madhya Pradesh should be adopted, i.e., MSEDCL should take the difference between the calculated electricity outage hours from the total monthly bill hours.

2.10.6. Shri. Uttam Shankar Saoudane stated that, there are no meter readings taken by MSEDCL in the rural areas especially for agricultural Consumers and mentions 'in access', faulty, etc. on the electricity bill. MSEDCL is averaging the usage and issue bills to the agricultural consumers. Further, such bills are given to grocery or flourmills and not distributed to each household, that too when due date of the issued bill is expired. Further, it was suggested that, capturing of consumer meter photo, while taking readings, should be a mandatory practice for billing agency and if such information of meter is not captured or if there is, a wrong unit read on the electricity bills, then there should be a penalty of Rs 100 for each bill for the billing agency. It was further stated that MSEDCL should replace all faulty meters. In addition, MSEDCL should take meter readings for every two months for household consumers and the fixed charge should be levied for only one month.

2.10.7. Shri. Harish Maru stated that the period of billing cycle should be for 30 days. MSEDCL gives bill for 25 days but levy fixed charge for 30 days. The fixed charge for household sector is Rs 65 and for commercial it is Rs 270 for 30days, thus the same shall be charged on per day basis.

2.10.8. Shri. Balwant Kulkarni stated the electricity bills were not distributed on time. For last two months bills were not distributed in Vasai and Virar.

***MSEDCL's Reply***

2.10.9. On replying to queries about improving billing efficiency has stated that it has been continuously taking efforts to improve billing efficiency by improving its IT System. MSEDCL now send SMS to more than 2 crore consumers immediately when their meter is read, they do not have to wait till the bill. As per our understanding, MSEDCL is the only utility, which is engaging consumers in this manner: Standard SMS reads as follows:

"Meter read for Cons
XXXXXXXXXXXX on XX-XX-XX
At XX: XX for JUL-18. Reading: XXXX,
Consumption for month XXX. PL check reading.
In case of complaint contact 1912"

2.10.10. Rating of consumers based on payment history, disconnection of regular defaulters: MSEDCL has noted the suggestion of the consumer

2.10.11. MSEDCL states that it is pioneer not only in expanding and augmenting its infrastructure network but also in implementing consumer services through its IT initiatives. Following table shows the infrastructure addition/augmentation by MSEDCL since FY 2005-06.

***Table 2-4: Infrastructure augmentation since FY 2005-06***

| Sr. No. | Particulars | unit | As On 31.03.2005 | As On 31.03.2018 |
|---|---|---|---|---|
| 1 | HT LINES | Ckt Km | 215297 | 370938 |
| 2 | LT LINES | Ckt Km | 461793 | 663594 |
| 3 | SUB-STATIONS | Nos. | 1706 | 3502 |
| 4 | DISTRIBUTION TRANSFORMERS | Nos. | 214208 | 599367 |
| | | Capacity (MVA) | 22753 | 58476 |
| 5 | POWER TRANSFORMERS | Nos. | 2570 | 5666 |
| | | Capacity (MVA) | 12315 | 32436 |

2.10.12. MSEDCL has already implemented State of the Art Supervisory Control and Data Acquisition System (SCADA) in 8 towns.

2.10.13. MSEDCL has been continuously improving its metering technology. It has moved from electro-mechanical meters to Radio Frequency (RF) meters and Pre-paid meters.

2.10.14. MSEDCL has introduced Mobile App to improve consumer services and internal administration including Billing, Collection etc. Main Features of Consumer App: Apply for New Connection /Upload Documents / Payment of Estimate charges, View and Pay bill, Register and Track complaints, Submit Self Meter Reading, apply for change of Name, apply for change of Load, Locate Nearest MSEDCL Office and Collection Centre, Estimate monthly consumption and Bill calculator, Report Power Theft and Feedback about Mahavitaran Services.

2.10.15. MSEDCL submitted that it has carried out meter replacement drives to replace old, faulty meters. If the consumer specifically brings out specific cases where electro-mechanical meters are not replaced, corrective action can be taken.

2.10.16. MSEDCL also submitted that the Average billing rate for computation of efficiency loss due to distribution loss for FY 2015-16 has been duly computed in line with the methodology approved by the Commission in the past orders. MSEDCL has already taken many initiatives to improve the billing. Complete digitization is being taken up.

2.10.17. Other issues related to KYC of consumers for new and old connections as raised by the consumer representative, are operational issues, which are to be dealt separately.

***Commission's Analysis & Ruling***

2.10.18. The Commission has taken note of the deficiencies pointed out in the customer related processes and service delivery related issues, which not only affect the consumers but also result in Commercial loss for the Distribution Utility. Addressing the billing process /Billing disputes of consumers including Agriculture consumers is critical and should be taken up on priority, as improving billing and collection cycle efficiency would ease the liquidity position for MSEDCL as well.

2.10.19. The Commission appreciates the efforts and results taken by MSEDCL for improving billing and taking many consumer centric and innovative steps towards automation

2.10.20. The Commission notes MSEDCL's submission during the hearings regarding the initiatives it has recently taken for mobile alerts and the introduction of a mobile- based application. MSEDCL should explore further expansion of its mobile applications to enhance other customer outreach and awareness activities.

2.10.21. MSEDCL should review its billing related processes, identify current limitations/gaps and areas for improvement and take corrective steps and monitor the implementation of necessary actions at the highest level. MSEDCL may also conduct a third-party process audit of its billing processes, including audit of its billing software/system.

## 2.11. Capital Expenditure and Capitalisation

***Objections/Suggestions***

2.11.1. Prayas (Energy Group) – Institutional Consumer Representative stated that MSEDCL seeking adjustment of GFA due to change in Capitalization are the costs disallowed on account of non submission of Cost benefit analysis. Also requested the Commission to evaluate whether such post-facto change can even be considered. And if indeed the proposals are corrected and later implemented, it is not clear why these costs were not claimed in the past Tariff processes. Again, referring to Case No. 176 of 2016 stated that MSEDCL was supposed to provide details for policy for assets verification during this MTR process, but this has not been provided. The Commission should redirect MSEDCL to submit this as soon as possible. Also requested the Commission to set up process for third part verification of CAPEX projects implemented by Distribution Licensees and their CBA's.

2.11.2. Shri. Viraj Wade and others have stated the capital expenditure of MSPGCL and MSEDCL is 1.5 times more as compared to other private utilities. He suggested that the expenditure should be controlled and brought down to reasonable level.

2.11.3. Shri. Vipin G Jain of Mahindra Sanyo and Shri Seketu Shah of Alloy Steel Producers Association of India (ASPAI) has requested the Commission to not allow capitalisation till time physical verification of fixed assets have been carries out. They have also asked MSEDCL to submit item-wise details of impact of final FRP. For unutilised assets, MSEDCL should provide details of such assets and the Commission has been requested not to allow such costs in ARR. They have also stated that MSEDCL has provided very generic issues for time overrun and cost overrun for Capital expenditure. Hence, the Commission is requested for detailed scrutiny before allowing such cost and no project management related issues should be allowed.

2.11.4. M/s. Net Mech Founders Pvt Ltd. and Shri Satish Koshti stated that the capex of electricity generation and distribution companies is more by 1.5 times the capex of private distribution companies. There should be control on this capex and bring it within limits. There should also be physical verification of all the expenditures, which has taken place earlier and a detailed audit.

***MSEDCL's Reply***

2.11.5. MSEDCL has submitted that the capitalized value of assets as submitted in the Petition is actual capitalization and the same is thoroughly audited as per the Companies Act. Committee for physical verification of Fixed Assets has been formed & will be implemented.

***Commission's Analysis & Rulings***

2.11.6. For capital expenditure and capitalisation, the Commission has considered only those schemes which it has approved in-principle based on the DPRs submitted by MSEDCL, In addition, for FY 2015-16 the Commission has considered those schemes whose costs and benefits have been clearly stated by MSEDCL. For FY 2015-16 and FY 2016-17, the Commission has also carried out scrutiny of the actual capitalisation.

2.11.7. Capitalisation towards non-DPR schemes has been allowed only upto the threshold limit of 20% of the capitalisation towards DPR schemes.

2.11.8. The Commission has disallowed 50% of the IDC of those schemes whose capitalisation has exceeded the in-principle approval. The Commission's observations regarding the capitalisation in excess of the costs approved in principle are elaborated in subsequent chapters dealing with True-up and ARR components.

## 2.12. Schedule of Charges

***Objections/Suggestions***

2.12.1. Shri. Raksh Pal Abrol of Bharatiya Udhami Eva Upbhokta Sangh and several others have stated that the Commission must abide by Regulations-18 of the Schedule of Charges under MERC (Electricity Supply Code) Regulations prior to approval. MSEDCL should be instructed to reduce Distribution loss and Schedule of charges should not be changed for the rest of the control period.

***MSEDCL's Reply***

2.12.2. MSEDCL submitted that it has proposed revision in Schedule of Charges due to escalation of labour and material costs due to inflation

***Commission's Analysis & Rulings***

2.12.3. The Commission has dealt with the issue of Schedule of Charges, separately in Chapter 10 of this Order.

## 2.13. RLC Refund

***Objections/Suggestions***

2.13.1. Shri Atul Pande of Vidhrabha Industries Association (VIA), Shri. Rajkumar Bilala of Vidarbha Chamber of Commerce & Industry and others stated that despite the Commission's directives in Case No. 19 of 2012, MSEDCL has not refunded RLC, which was collected on loan basis at 0.50 per unit. MSEDCL credited misleading compliance before the Commission that it has credited these amounts in consumer account. The fact is, this amount is credited in the ledgers of the PD consumers but not in consumers account.

***MSEDCL's Reply***

2.13.2. On replying to query regarding refund of RLC, MSEDCL submitted that MSEDCL has made the refund of RLC to the consumers and no specific request from any consumer is pending with MSEDCL.

***Commission's Analysis & Rulings***

2.13.3. The Commission has noted the submissions made by MSEDCL.

## 2.14. Applicability of Standby Charges for SEZs / Railways

***Objections/Suggestions***

2.14.1. Shri Suhas Ambade of Mindspace Business Parks Pvt. Ltd., Deemed Distribution Licensee stated that the purpose of SEZ developers to become Distribution Licensee and serve the consumers at lower tariff does not suffice. Thus, the standby charges proposed for standby supply should not be allowed. The prayer of MSEDCL shows their intention to cherry pick the HT consumers only. MSEDCL need to build the network for HT as well as LT consumers. The sixth proviso to Section 14 of the EA 2003 mandates that a second or subsequent licensee in an area of supply have to develop its own distribution system for providing supply to its consumers. Therefore, it is clear that a second or subsequent licensee cannot depend on the distribution system of the existing licensee(s) to supply to its consumers. MSEDCL has prayed to classify the SEZ customers in new sub category under industrial category giving concessional tariff, which is against the spirit of tariff determination

***MSEDCL's Reply***

2.14.2. MSEDCL has submitted that currently there is no mandatory provision for standby arrangement and standby charges for SEZ & Deemed Licensee. There have been several instances of tripping of the source generator/CPP which has resulted in over-drawl of power from the Grid by the SEZ/Deemed Licensee. Such unscheduled drawal is a matter of serious concern as MSEDCL may have to arrange for costlier power to cater to its demand or its consumers may have to suffer load shedding in a power deficit scenario in existing format of FBSM. As per the present regulations, the over-drawal has to be maintained within +12%. For maintaining the state grid, MSEDCL sources get adjusted. This leads to undue burden on common consumers of MSEDCL. Hence, standby arrangement is required to be made by utilities. In order to avoid such undue burden getting passed on to common consumers of MSEDCL, MSEDCL has proposed mandatory standby arrangement and tariff for SEZ/Deemed Licensee.

2.14.3. Further, MSEDCL can supply power to consumers situated in SEZ Areas through parallel license arrangement as per the provisions of the EA 2003. MSEDCL submits that in the Judgment in Appeal Nos. 229 and 246 of 2012 on 28 November, 2014 The Hon'ble ATE, has emphasized to promote consumer choice without duplication and wastage of national resources, and advocated for the use of the existing networks of both Licensees to the extent possible. Accordingly, MSEDCL has proposed to supply power to consumers in SEZ area by utilizing the network already available by paying the appropriate wheeling charges. MSEDCL has proposed that it will supply power to the consumers in SEZ areas whosoever approaches MSEDCL for availing supply. Hence, there is no question of cherry picking.

2.14.4. Poor Distribution System: In order to supply reliable and quality power to its ever-increasing consumer base across its area of supply, MSEDCL has been substantially increasing and augmenting its distribution network including remote areas. Following table shows the statistics of the main infrastructure addition by MSEDCL over a period of 10-12 years.

***Table 2-5: Infrastructure addition over a period of 10-12 years.***

| Particulars | Units | FY 05-06 | FY 17-18 | CAGR since FY 05-06 |
|---|---|---|---|---|
| Sub-Stations | Nos. | 1,770 | 3,502 | 6% |
| DTCs | Nos. | 2,25,818 | 5,99,367 | 8% |
| LT Lines | Ckt-kM | 4,69,898 | 6,63,594 | 3% |
| HT Lines | Ckt-kM | 2,21,319 | 3,70,938 | 4% |
| Sales (incl Franchisee) | MU | 43,110 | 1,01,311 | 7% |
| No. of Ag Connections | Nos. | 23,66,150 | 41,78,268 | 5% |
| Total No. of Consumers | Nos. | 1.39 Crores | 2.46 Crores | 5% |

***Commission's Analysis & Rulings***

2.1 The Commission notes the submission of the SEZs and MSEDCL. There is no legal mandate on SEZ for the Standby arrangement. In the ordinary course, in pursuance of its obligations under Section 33 of the EA, 2003, MSLDC would have been expected to ask the Distribution Licensees including SEZ's to curtail its load to match the reduced availability of its contracted Generator. SEZs are at liberty to source stand-by power through a Diesel Generator Set or a separate arrangement with any other Generator or entity which it considers to be more financially beneficial to it. Therefore, the Commission does not see any reason to apply the standby charges on SEZs. The issue has been dealt with in detail separately in Chapter 9 of this Order.

## 2.15. Penalty and DPC charges

***Objections/Suggestions***

2.15.1. Shri. S.B.P. Kulkarni of Menon Pistons Limited, Unique Industries, M/s Gimatex Industries Pvt Ltd and others stated Rs 200 Crores incurred in this account and this cost can be avoided by systematic working and timely payment.

2.15.2. M/s Eternity Legal stated belated payment made by MSEDCL is a default on part of MSEDCL. They also referred to Case No 150 of 2015 wherein the Commission unambiguously decided on liability of MSEDCL to pay DPC on the outstanding payments. MSEDCL submission before the Commission as well as Hon'ble ATE, that it will not get pass through of DPC and hence, same may not be allowed. DPC cannot be passed through as it is in nature of penalty. Despite, being aware of same, MSEDCL defaulted in payments and hence, now MSEDCL cannot claim advantage of its own default. Thus, such proposal of MSEDCL shall be dismissed by the Commission

2.15.3. Shri. Vipin G Jain of Mahindra Sanyo and Shri Suketu Shah from Alloy Steel Producers Association of India has asked MSEDCL to provide year-wise (i.e. for FY 2015-16; FY 2016-17 and FY 2017-18) statement of amounts pertaining to penalty and DPC that have been included as a part of ARR. Also stated that MSEDCL has mentioned that it has not considered DPC under Power Purchase cost. However, when matched with Audited Accounts numbers are identical. Hence, the Commission is requested not to consider amounts related to penalties under DPC.

2.15.4. M/s. Shree Components & CR Jamdar stated that MSEDCL does not give timely payments to electricity supply agency thus MSEDCL interest gets accumulated. Also most of the time the funds available with MSEDCL remains unused, due to this the there is loss of interest, this loss is as much as Rs 200 crore /year. Thus, ultimately such loss has to be borne by the consumers and the same should be disallowed by the Commission.

***MSEDCL's Reply***

2.15.5. MSEDCL has not submitted any replies for the same.

***Commission's Analysis & Rulings***

2.15.6. The Commission observes that as per the Regulation 36.4 of the MERC MYT Regulations, 2015 the DPC shall not be allowed as an expense for Distribution Licensee. Accordingly, the Commission has dealt with the issue separately in Chapter No 7 of this Order.

## 2.16. Rebate and Bulk Discount

***Objections/Suggestions***

2.16.1. Shri. Vasant Waghmare of Waluj Industries Association, Shri Ajay Govind Baheti of Bhagwati Steel Cast Pvt Ltd , Shri. Raghunath Kaparthi, M/S Balaji Electrosmelters Ltd., Adv. Veejay Kumar Aggarwal and others stated that MSEDCL has proposed a rebate of Rs. 1/unit in energy charge for incremental consumption to existing HT Consumers, which is not competitive with neighbouring states and this kind of rebates, not allowed under EA-2003. They also stated that MSEDCL is proposing huge bulk discount with ceiling of 10% energy charges starting from 0.5 million units to 10 million units power consumption in month and this will only benefit to very few large and mega Industries. They stated that the estimated quantum of Bulk discount rate is Rs 495 Crores and Rs. 544 Crores for FY 2018-19 and FY 2019-20 respectively is high and benefit goes to only few large and mega industries.

2.16.2. Shri. Rajkumar Bilala of Vidarbha Chamber of Commerce & Industry, Shri Sudhir Budhy of Vidhrabha Industries Association (VIA) and others stated that MSEDCL has proposed incentives for new HT industries. EA-2003 do not empower MSEDCL or the Commission to propose it or approve it. This amounts to discrimination between two consumers of identical category based on new or old and thus it is illegal under the provisions of EA 2003 section 62(3). They also stated that Bulk discount proposal format is unacceptable and beyond scope of MTR. It will create discrimination between small capacity plant and large plants and badly hurt SME. VIA suggest if at all to give bulk discount it should be given to consumer consuming more than 50,000 units per month. They also requested the Commission to create bulk discount to LT commercial category as the tariff in commercial category is too much and unsustainable. Such bulk user may opt to shift to rooftop again leaving impact on MSEDCL.

2.16.3. Dr. Jeevan Raut of Rashtrawadi Bidyut Kamgar Sangathan stated that incentives are for financial motivation to consumers to pay energy bill prior to last date. MSEDCL also got paid employees to disconnect supply of power to default consumers. Hence, the loss of Rs. 259 Crores per year claimed by MSEDCL should be discontinued to consumers as prompt payment benefit.

2.16.4. Shri Vivek Dharurkar of Bharat Forge stated that the proposed rebate of Rs. 1/KVAh in energy charges for additional consumption over threshold is welcomed by industries but has also suggested that partial OA Consumer who source only RE Power should be considered for extending the rebate as promotional policy for RE Power. They have also welcomed rebate proposed by MSEDCL over a limit of 0.5 MU but also suggested that instead of allowing rebate for bulk consumption, 2-3 slabs in the energy charge part be made so as to encourage higher consumption and utilisation of surplus power.

2.16.5. Shri Mayur Bangdiya of Prabhatinagar Sustainable Energy Private Limited stated that MSEDCL has proposed that rebate for incremental consumption to be given to only those consumers who source entire power from MSEDCL and shall not be applicable to Open access consumers. He has raised a query if RE captive consumers be considered for the rebate for incremental consumption. And has also requested the Commission the same (if not applicable) in line with the spirit of rebate to boost power demand.

2.16.6. Shri. Sanjay Deshmane Lahu Udyog Bharti stated that any change in the Power Incentives / Rebates provided under Tariff Philosophy of MYT Order is void, illegal and not maintainable

***MSEDCL's Reply***

2.16.7. While replying to objections on bulk consumption rebate and incentivized tariff for new upcoming HT consumers MSEDCL submitted that there is a surplus power available with it and therefore there is a need to implement innovative schemes for boosting power demand more particularly in subsidizing categories. As a result, any benefit of increase in sales in subsidizing categories due to such innovative measures will get passed on to all its consumers by way of reduction in tariff in future. Further, the proviso of section 62(3) provides for differentiation according to the total consumption of electricity during any specified period. Accordingly, MSEDCL has proposed a new tariff category with separate tariff for Green Field projects for a period of three years.

2.16.8. MSEDCL, in its MTR Petition, has categorically stated that these innovative measures are not proposed under Regulation 78.4 of the MERC MYT Regulations 2015.

***Commission's Analysis & Rulings***

2.16.9. The Commission has noted the concerns and objections raised during public hearing process, wherein several objectors have raised objections and concerns that MSEDCL's proposal for bulk supply rebate seeks to discriminate against small consumers in favour of bulk/large industries. Such differential bulk rebate design would be discriminatory and would only favour large consumers as against small/micro/mini scale consumers. Pass through such bulk discount through ARR of utility would further affect the other small/micro organisations. Hence, the Commission has not allowed such Bulk Consumption Rebate as proposed by MSEDCL.

## 2.17. Adoption of Gross Metering

***Objections/Suggestions***

2.17.1. Prayas (Energy Group) – Institutional Consumer Representative stated that the proposed changes are limiting Rooftop capacity to 15% of DT Capacity from existing 40%; Limiting capacity to 50% of the contract demand/ sanctioned demand; capping generation cumulatively to 90% of electricity consumption at the end of relevant billing cycle and levying new wheeling charge of Rs 1.26 per kWh on Rooftop LT Consumers. MSEDCL should report number and size of rooftop applications, systems installed, in pipeline wherein-Go Ahead given, Solar generation being used for MSEDCL RPO etc. on their website. Also stated that, Rooftop solar and metering still in nascent stage and when demand is significant, the Commission can initiate a public process to revise the regulations.

2.17.2. Shri. Raghunath Kaparthi from M/s Balaji Electrosmelters Ltd., Adv. Sachin Godambe and others have stated that MSEDCL in the petition has not defined the difference between Net Metering and Gross Metering of rooftop solar systems. MSEDCL is submitting that Andhra Pradesh and Uttar Pradesh has provided an option of Gross Metering to the consumers whereas in Karnataka residential, schools and hospitals can opt for Gross Metering whereby the energy generated through roof top system is exported to the Grid. Gross Metering introduced by these States is in addition to Net Metering to encourage Solar Roof Top Consumers to generate Solar Power and sell them if they are not required for self - Consumption of Power. Whereas, MSEDCL proposing to abolish Net Metering and convert all Net Metering consumers to Gross

Metering consumers. They also pointed that Consumers are bearing all the charges including Net Meter for installing Solar Roof Top System. Hence, they humbly submit to the Commission not to change existing Net Metering Roof Top System and to allow consumers to make option for "Gross Roof Top Metering System" instead of "Net Roof Top Metering System" as done in the states of Andhra Pradesh, Uttar Pradesh and Karnataka. Further imposing of Wheeling charges is not allowed because Net Metering consumers are generating and selling power after meeting their Self Consumption. Levying of Wheeling Charges on Generator / Seller is illegal and void.

2.17.3. Shri. Ashutosh Pohnerkar stated that financial loss and related arguments of MSEDCL pertaining to net metering are baseless and hence should not be considered.

2.17.4. Shri. Rajesh Jaju of Tulsi marketing and Shri Mayur Bangdiya (Prabhatinagar Sustainable Energy Private Limited), Shri. Vasant Waghmare of Waluj Industries Association stated that Net Meters are not being supplied by MSEDCL and has also asked clarification if cost considered (if any) for purchase of Net meters. They have also requested the Commission to allow net metering and gross metering together in the State.

2.17.5. Dr Ajay Chandak, stated that gross metering will indirectly mean PPA at APPC around Rs. 4.67 /kWh, which is not feasible for any Project developer to match up with. MSEDCL is losing Rs 5/unit because of consumers opting for Rooftop solar net metering scheme. He also suggested to adopt innovative mechanism of "Virtual Rooftop solar Power project".

**Limiting Solar PV System Capacities**

2.17.6. Shri Ishant Shahade of SWID Process Technologies, M/s Ravi-Urja Electricals & Enterprises, Shri Vivek Bhore from M/s V.V.Associates; Shri. Siddharth Rathi (Master's Engineering) and others stated against MSEDCLs suggestion of allowing cumulative capacity upto only 15% of peak capacity of DT which is presently 40% and maximum capacity limit of 50% of consumer sanctioned load/contract demand for individual rooftop installations. He has also pointed towards capping of generation from rooftop system at 90% of consumption by eligible consumers at end of billing period. Hence, they have requested the Commission not to allow a) Reduction in PV system capacities based on DTC and Sanctioned Load or contract demand b) also 90% cap on generation in billing period.

2.17.7. Shri Sudhir Budhay stated that MSEDCL has not quantified the loss due to net-metering and it can be justified if they keep track record of all the GCRT installations, install generation meters. As more than 18% transformers installed are AG feeders, 50% transformers are in Sub-district and about 32% transformers are likely to be connected with GCRT which is again capped with 40% transformer capacity, loss of revenue due to net-metering may not be high to change the state regulations and can be compensated partially with reduction of T&D losses. He also stated that the cumulative capacity of DT at 40% is fixed against demand of 80% in the net-metering committee keeping the interest of consumers at large. If limit is further reduction to 15% then it will be loss of opportunity for others which hampers state generation targets for solar rooftop

**Net Meters**

2.17.8. Shri. Samir Gandhi stated MSEDCL does not provide Net-meter to Rooftop consumer/developer as per "MERC (Net Metering for Roof-top Solar PV Systems) Regulations, 2015". MSEDCL shall install, at its own cost and with the consent of the Eligible Consumer, a Solar Generation Meter conforming to the applicable CEA Regulations at an appropriate location to measure the energy generated from the Roof-top Solar PV System if it desires that such energy be counted towards meeting its RPO. But it is observed that MSEDCL forces consumer/developer to install Solar Generation meter (+ CT if required) + Box. These ought to be provided by MSEDCL. Even after yielding to all Extra demands of MSEDCL, the Rooftop developer/ owners do not get Net-metering bill as per MERC rules. It takes 6-7 months to generate right bill & till then developer keeps on paying average bill as per his past usage without the effect of exported units+ Solar units used. Ring type CT are not accepted for Solar Generation meters without any technical reason, just on the whims of MSEDCL testing dept. There is no time limit or prescribed period to give sanction for Net-metering. MSEDCL takes unduly long time & developer/consumer keeps on running to different departments of MSEDCL. Even if Net & Solar generation meters are provided by the consumer, MSEDCL unnecessarily charges meter testing charges.

2.17.9. Shri Kiran Bagade has pointed out that despite several follow up and application of Net Metering system, meter was installed after delay of 3 months but still no correct reading of meter is being provided. Again, no consumer service for the same is being provided.

2.17.10. Shri Ashok Jog stated despite of installing Net Metering systems and paying for net meter installation yet consumer continues to get bills as per old meters. He has raised concerns on educating meter reading staffs and provide consumers the promised benefits.

2.17.11. Shri Swapnil Patkar has pointed out that despite several follow up and application of Net Metering system, meter was not installed till date and inspection report not submitted by inspection engineer.

2.17.12. Shri. Bharat P Kasar has pointed out that he had to buy the Net Meter on its own, Pay the charges for approval from MSEB and Till Date (July 22, 2018) he has not received bills for the net meter. He has also stated that if such is the pathetic situation of MSEDCL service to the honest and prompt paying customers, then why should Consumers pay increased fixed charges as proposed when MSEDCL is not even able to give basic service.

2.17.13. Shri. Parag Pawar had stated grievances for delay in procurement of Net Meters and corruption charges against Agency during course of action for application of Net Metering scheme.

***MSEDCL's Reply***

2.17.14. While replying to queries related to Solar Roof Top, Net Metering & Gross Metering: MSEDCL submitted that it has been allowing the Net Metering in its area of supply to the eligible consumers as per the MERC (Net Metering for Roof-top Systems) Regulations 2015. MSEDCL submits that in general the Rooftop systems are preferred by consumers whose consumption falls in higher tariff bracket. Rooftop Net Metering system brings these consumers from subsidizing to subsidized category which adversely impact the cross-subsidy balance in tariff. As a result, the financial impact gets passed on to common consumers who cannot afford such rooftop system. On the other hand, Gross Metering systems will not have impact on the low end consumer tariffs. It has been observed that the installations of Rooftop system are growing exponentially and therefore it will certainly have an impact of MSEDCL's revenue and tariff of MSEDCL's cross subsidised consumers will have to be drastically increased to meet the ARR. Moreover, RoI on the solar rooftop because of cross subsidy regime on present cost of rooftop is about 27% i.e. 11% more as compared to Industry norm of 16-18 %.

2.17.15. MSEDCL also submitted that it is required to keep its entire generation, transmission and distribution capacity available for such consumers even if they consume power from rooftop system and hence MSEDCL has proposed to levy wheeling charges on rooftop energy consumption

2.17.16. The provisions related to roof top systems in various states are summarized below:

| Sr. No | State | Provision |
|---|---|---|
| 1 | Tamil Nadu | Max. allowable capacity for PV installation on Distribution Transformer: 30% of the Distribution Transformer capacity<br><br>Cap on generation: 90% of the electricity consumption |
| 2 | Rajasthan | Max. allowable capacity for PV installation on Distribution Transformer: 30% of the Distribution Transformer capacity<br><br>Cap on individual capacity: 80% of consumer's sanctioned load/contract demand |
| 3 | Haryana | Max. allowable capacity for PV installation on Distribution Transformer: 30% of the Distribution Transformer capacity<br><br>The maximum installed capacity (Roof top PV) is restricted to 200 MW in the area of supply of each licensee. |
| 4 | Gujarat | Max. allowable capacity for PV installation on Distribution Transformer: 65% of the Distribution Transformer capacity<br><br>Cap on individual capacity: 50% of consumer's sanctioned load/contract demand. |

2.17.17. In line with provisions in other states MSEDCL has proposed revision in present provisions in roof top systems

2.17.18. Green Energy is important step of GoI. Instead of incentivizing them, MSEDCL wants to burden them: MSEDCL is not against the rooftop systems. However, the existing "Net Metering" system will result into tariff burden on other consumers who cannot afford / have not installed such systems by way of increase in their tariff. Gross Metering will provide a level playing field to all the consumers in long term. International experience also ratifies the view of MSEDCL regarding "Net Metering"

2.17.19. MSEDCL submits that it corroborates with the views expressed by the consumer regarding impact of rooftop net metering scheme by way of increase in tariff of common consumers.

2.17.20. MSEDCL has therefore proposed adoption of Gross metering in order to reduce the burden on common consumers and to provide level playing field to all the consumers.

***Commission's Analysis & Rulings***

2.17.21. The Commission has taken a note of the Petitioner's submission regarding the issues pertaining to Net-metering/Gross Metering arrangement. Commission observes that, the above highlighted issue is specifically linked to the provisions stipulated under the MERC (Net-Metering for Solar-Rooftop Photo Voltaic System) Regulations, 2015 and the entails modification/review of Net Metering framework upon due regulatory consultation process. Thus, the submissions of Petitioner cannot be addressed under the present MTR process initiated in pursuance of the MYT Regulations, 2015.

## 2.18. Additional Surcharge

***Objections/Suggestions***

2.18.1. M/s Eternity Legal of Green Energy Association stated because of inefficiencies of MSEDCL, it could not provide 24x7 power to its consumer and very high cost of MSEDCL is motivating consumers to opt for OA. Again, the load shedding circulars by MSEDCL from time to time proves that MSEDCL is not providing continuous power supply to all categories of consumers. Again, because of OA there is no stranded capacity as evident from load shedding circulars. Hence, the evidence of MSEDCL being unable to supply power itself justifies the stance of Objector that such levy is unjustified. MSEDCL proposal of raising such Additional Surcharge is creating hindrances for consumers to avail OA. The same should not only be dismissed by the Commission for such hike but should remove Additional Surcharge. They also opposed levy of Additional Surcharge to CPP as proposed by MSEDCL.

2.18.2. Shri Atul Pande of Vidhrabha Industries Association (VIA) Highlighting S.42(4) of the Act, VIA stated that Additional surcharge cannot be more than demand charges determined by Regulator in tariff. Hence per kVA cost be converted to per kWh cost which will translate to 0.40 Rs/unit at present demand charge.

2.18.3. Shri. Deepak Zade of MITCON Solar Alliance Ltd., Shri Kailas Bansi Nikalje of Sai Wardha Power Generation Ltd objects to the applicability of additional surcharge on captive consumers in Petition due to following reasons: 1) Additional surcharge is wholly misconceived and is liable to be rejected in line by the Commission. 2) He said control period is still in operation and MSEDCL is only seeking MTR based on financials now available. 3) The Petitioner without fulfilling the preconditions for levy of additional surcharge has made the present proposal and therefore liable to be rejected. 4) Sai Wardha has provided reference to Section 42(4) of the Act and proviso in Tariff Policy stating that additional surcharge is meant to compensate the distribution licensee to meet the fixed cost arising out of obligation to supply. 5) Sai Wardha states that capacity being stranded is not any manner on account of objector's captive generating plant and hence, not caused any stranded capacity for any claim of additional surcharge. 6) Electricity Act creates separate category for captive generators and captive consumers, as against open access consumers and various exemptions are provided to captive generators and consumers.

2.18.4. Shri. S.P.Shinde, of Bajaj Finserv stated that levy of additional surcharge on OA consumer similar to non-OA consumer against obligation of supply by MSEDCL, the payment of "Additional Surcharge" on wheeling is to be removed. Since MERC determined Additional Surcharge and removed 75% concession in CSS, Renewable energy projects under OA lost their viability and suffering financial losses and proposed increase in OA charges will abolish RE OA business from Maharashtra.

2.18.5. Shri Gautam Jain of Retailers Association of India , Shri S S Joshi of B F Utilities, Shri Manish Kedia of Kores India Ltd, Shri Nitin Deore of Daksha Infrastructure Pvt Ltd and Deesan Agro Tech. Pvt. Ltd Stated that Additional Surcharge should be exempted to RE OA consumers. Commission should re-determine Additional Surcharge based on actual facts and figures.

2.18.6. Shri. Nitin B. Tilak of Tata Motors Ltd. states MSEDCL’s proposal for Additional Surcharge on open access Consumers needs to be abolished. He therefore, requested the Commission to revalidate the rates of Additional Surcharge and disallow MSEDCL’s claims for increase in rate of Additional Surcharge on Open Access consumers including CPP.

2.18.7. M/s Mukand Infinite Resolve, M/s Mahindra Sanyo, M/s Alloy Steel Producers Association of India (ASPAI) and others stated because of open access, there is no stranded capacity as evident from load shedding circulars that consumers including agricultural consumers are not being provided 24X7 power supply. Until that time, all categories of consumers are supplied with 24X7 power supply thee cannot be any case of approval of additional surcharge for open access.

2.18.8. Shri Manish Singh of Indian Wind Energy Association stated InWEA would like to request the Commission that the proposed increment in cross subsidy surcharge and additional surcharge has made the third party transaction of renewable energy as non-viable. Considering this, InWEA has requested the Commission that Additional surcharge should be exempted for RE OA transactions. In case it is not exempted then the Commission should re-determine Additional surcharge based on actual facts and figures.

2.18.9. Shri Dilip Datawani of Hotel & Restaurant Association (Western India) stated MSEDCL's proposal of hike in Additional Surcharges from Rs. 1.11/kWh to Rs. 1.28/kWh, such changes or hike proposed by MSEDCL is steep and will severely impact commercial viability for OA consumers.

2.18.10. Shri Ashok M. Swami stated that for HT category the additional surcharge for 2018-19 is Rs 1.25/unit while for 2019-20 is Rs 1.28/unit. The same should not be accepted by the Commission

***MSEDCL's Reply***

2.18.11. MSEDCL submitted that as per Universal Service obligation (USO) MSEDCL has to consider the demand of all consumers including Open Access consumers (initially being the consumers of MSEDCL), while carrying out its long-term power planning. However, when such Open Access consumer source its power requirement either partially or fully from other than MSEDCL sources, this results into surplus power situation for MSEDCL to that extent. This results into financial impact to the common consumers of MSEDCL for no fault on their part. In order to share this financial impact due to Open Access consumers, MSEDCL propose to consider levy of Additional Surcharge to Open Access consumers.

2.18.12. MSEDCL further submitted that the fixed cost obligation of MSEDCL is around 55% of its ARR whereas the recovery through fixed charges is around only 15% of the revenue as the present fixed charges approved by the Commission are very low. Thus, a large portion of the fixed cost obligation is being recovered through variable charge. As the OA consumers procure less power from MSEDCL, they are effectively paying very less towards fixed cost obligation of MSEDCL. Therefore, it is necessary to levy Additional Surcharge to all OA consumers so that the undue burden of such less recovery does not get passed on the common consumers of MSEDCL. Non-levy of Additional surcharge on such OA consumers resulted into financial burden of Rs. 450

Crores per annum on other consumers, which is made clear in MSEDCL's presentation during public hearing.

2.18.13. MSEDCL has computed the Additional Surcharge in line with the methodology adopted by the Commission in the MYT Order dated 3rd November 2016

***Commission's Analysis & Rulings***

2.18.14. The Commission has carefully examined the submissions of MSEDCL, as well as the objections filed by stake-holders and MSEDCL's replies with regard to the applicability of Additional Surcharge for Open Access Consumers sourcing power through Group Captive Power Plants (GCPP). The Commission has examined the relevant provisions of EA, 2003, and Regulation 14.8 of the DOA Regulations, 2016 on which MSEDCL has relied. Upon careful examination of the facts and the relevant provisions, the Commission holds that Additional Surcharge shall be applicable to Captive Users of Group Captive Power Plants; in addition to Open Access consumers. Further, this will provision shall apply with prospective effect. The Commission has further elaborated on this issue separately in Chapter 9 of this Order.

## 2.19. Power Supply and Distribution

***Objections/Suggestions***

2.19.1. Shri Samir Sane from Laghu Udyog Bharti, Shri Pratap Ganpatrao Hogade from Janta Dal Smaha Maharashtra, Members of N K Minda Group, Shri. Raju Patil from Smak Bhavan and M/s. Shree Components & CR Jamdar stated there is electricity breakdown issues every day. The Average breakdown of electricity is more than 2 hrs for House hold- 1-4 hrs, for Industrial feeders- 15 mins to 1 hr, for MIDC area- 0.5 to 2 hrs (in Ichalkaranji, Malegaon and Bhiwandi). Out of 8-10 hrs of supply to Ag pumps, load shedding is 2-3 Hrs. This is resulting in loss of Rs 5200 Crores Therefore, it has been suggested that the situation of Power supply be examined on a priority basis to avoid future load shedding and losses.

***MSEDCL's Reply***

2.19.2. MSEDCL has not submitted any response for the same.

***Commission's Analysis & Rulings***

2.19.3. The Commission has provided its Standard of Performance Regulations and stipulated the norms for restoration of supply. The Commission has also provided the compensation for default of any such services by MSEDCL.

## 2.20. Increase in Tariff

***Objections/Suggestions***

2.20.1. Prayas (Energy Group) – Institutional Consumer Representative, Shri. S.B.P. Kulkarni of Menon Pistons Limited, J.K Mitta of Gimatex Industries Pvt Ltd, Menon Pistons Limited, Suresh Chougule of Chougule Industries and Unique Industries stated the existing tariff for Industrial consumers is higher by 25% to 35% as compared to other States. The proposed demand charges, energy charges, ToD tariff, electricity duty, PF Incentive and wheeling charges is higher by 110%, 1.8%, Rs. 0.06 per unit additional, 15.1% , 9% and Rs. 0.73 per unit respectively in tariff due to lack of uniform infrastructure of MSEDCL which is not viable for old industries. They also stated that the present and proposed energy rates of MSEDCL are higher compared to other states due to reasons such as Inefficient operation and working of MSPGCL, Huge cost of production in Government as compared to Pvt in Generation and Distribution cost, erroneous capex for wheeling and distribution, unreasonable PPA, etc. They also requested The Commission to take strong decision and issue stringent directions in the interest of public at large.

2.20.2. Shri Arun Waghmare stated that the proposed rate hike is due to inefficiency of MSEDCL, inappropriate expenditure on capital cost, lack of control on administrative costs, increasing electricity theft, not distributing electricity bill on time and increase in electricity scandal. which has to be borne by the consumers. This have affected the electricity generation and its use and hence big consumers have switched to a different electricity supply company E.g.; Railways. Since current rates for industrial consumers is almost 30% more than the neighbouring states, this may force the industrial users to switch to other states. He also stated the number of electricity user upto 100 units is 1.2 Crores. As per MSEDCL, for consumers who almost use 100 units, increase in rates is only 8 Paisa. But, actually consumer who use full 100 units, the average increase in rate comes to be Rs 4.90, but the proposed tariff by MSEDCL is Rs 5.73/unit. This shows the actual increase is 83 Paisa/unit not 8 Paisa (i.e. 17%).

2.20.3. Shri Samir Sane of Laghu Udyog Charti, Shri Pratap Ganpatrao Hogade Janta Dal Smaha Maharashtra, N. K. Minda group, Shri. Raju Patil from Smak Bhavan, M/s. Shree Components & CR Jamdar and Shri. Sanjay Torkhade stated that the proposed tariff for Residential Consumers has increased by 8 Paisa and industrial tariff has increased by 2% which is incorrect. Further, the Agricultural tariff compared to 2015 has increased by 2.7 to 5 times. Hence it is suggested to retain the tariff as the proposed tariff is not viable for us.

2.20.4. Shri Ashok Akaram Awle, Shri. Satish Koli, Shri Shrikant Anadrao Jagtap and Shri Balwant Ganpati Wadhkar stated the proposed tariff has been increased across all consumer categories and in the coming 2 years, Rs 30,842 Crores would be recovered in excess. Thus, such increase in tariff resulting due to electricity theft, corruption and high distribution losses is not acceptable.

2.20.5. M/s Net Mech Founders Pvt Ltd. and Shri Satish koshti has opposed the increase in Tariff rates for the Domestic consumers less than 300 units and Commercial consumers less than 200 units. Further, proposed ABR of MSEDCL is 22% whereas as per the Hon'ble ATE judgement Judgement ABR greater than 10% is considered as a Tariff Shock. Thus, it is requested that, the Commission should take a note of this and may not allow such tariff shock to the consumer categories beyond 10% of ABR.

2.20.6. Shri Payas Machyado of Janta Dal (Secular Vasai Taluka) has pointed out that distribution loss of MSEDCL is pertaining to the following reasons: Improper maintenance to Wires, poles, Transformers, missing fuse of DP switch etc., Poor Insulation of Cables, theft of electricity and unmetered connections and poor standard of performance by MSEDCL. Due to which rate of electricity in Maharashtra has been increased by 37%, when compared to other states. It was also pointed out that improper distribution of electricity bill among different categories of consumer should be rectified and tariff shock should be removed as far as possible across different categories

2.20.7. .Shri Harshad Sheth of PJS Securities P. Ltd stated in reference to Commercial Circular No. 242 dated 3 July 2015 and GOM GR no. MTD-2016/I.No. 190 (c)/Industry-2, dated 17 February 2017, PJS Securities stated that MSEDCL has denied refund of category difference (LT-II Commercial and HT-I/LT-V Industrial) from date of commencement of activity even after producing GR of G.O.M of industrial tariff and also other quasi-judicial authorities is injustice to consumer and violation of IT/ITES Policy of G.O.M.

2.20.8. Shri Ajay Govind Baheti of Bhagwati Steel Cast Pvt Ltd stated when regular yearly tariff has been approved by MERC, and then there is no point in asking for mid-term hike. It is also stated that consumer must not bear the cost of MSEDCL's inefficiency. The proposal of Tariff shock (16% - 50%) is against the principles and hence, should be restricted to maximum 10%. They also stated that states like Chhattisgarh, Telangana, and others have power intensive Industries like Ferro Alloys and Steel. In addition, states like Gujarat, Goa etc. do not have power intensive categories have very low power tariffs when compared to MSEDCL

2.20.9. Smt.Vaishali Kolhe, Smt Rupali Borhade and several others has opposed to electricity price hike. They also stated the proposed increase to be unjustified causing financial burden to consumers using agricultural, domestic and industrial power. They also stated that these are only due to electricity theft, corruption, carelessness high distribution loss and wrong practises by MSEDCL employees and should not be tolerated.

2.20.10. Shri. Raghunath Kaparthi, M/s Balaji Electrosmelters Ltd., and others stated Shri Viraj Wade/ Dakshata Patil and others states that existing tariff declared by the Commission are already 25% to 35% higher compared to adjoining states and should be retained. As announced by the State Government, Electricity rates should not be increased till those comes to the equal level as compared to adjoining states and for that all strict measures plan should be implemented. They also said that the proposed tariff is higher than neighbouring states resulting in higher manufacturing cost and competition.

2.20.11. Shri. S K Arrora of Sunflag Steel stated as per case 48 of 2016 the Commission has approved to decrease per unit rate from Rs 7.13/- to Rs. 6.93/- and increase in demand charges from Rs. 235/- to Rs. 290/- from FY-2016-17 to FY 2019-20. Hence, the proposed increase of per unit rate by MSEDCL is very unjustified.

2.20.12. Shri. Rajkumar Bilala of Vidarbha Chamber of Commerce & Industry stated Small R.O plant are billed at commercial tariff at many places despite of directives of CE commercial that it is Industrial activity vide its advice given to FS Amravati. MSEDCL must clarify this issue taking into account that these are small industry players having capex below Rs. 10 Lakh.

2.20.13. Shri. S. P. Shinde, of Bajaj Finserv stated that unit rates for HT consumers for FY 2018-19 and FY 2019-20 should be reduced as per average system power factor 0.9 lag which is not reflecting in MSEDCL's proposal. Request the Commission to pass on unit rate benefits to all HT consumers. In addition, he requested to rationalize Open Access tariff for both new and old installations. And also, requests to suggest GoM to notify repowering policy for old RE projects in order to enhance RE generation by installing new project on same place without increasing connected capacity to the State grid.

2.20.14. Shri. Balaram Govind Mang and Shri. Mahamdapasha Abdulla Desai stated that the increase is illegal and unjust this will increase the loan on farmers. Other tariff are double than the cost of electricity used, which is unjust. They are against the rate hike

2.20.15. Shri Vivek Dharurkar of Bharat Forge has requested to consider lower and Separate demand and energy charges to EHV Consumers than other 33/22/11 kV industrial consumers category

2.20.16. Shri Balaram Govind Mang, Shri. Mahamdapasha Abdulla Desai, Shri Rangarao nanasi bhane and Shri Balghoda patil and several others have stated that due to increasing production, cost farmer is facing financial problem, existing rates for AG pumps should be kept same for next 3 years, till the State government does not revise the subsidized rates farmers.

2.20.17. M/s. Mahavir Jaina Vidyalaya and Shri. Divesh Rawal stated that students' hostels affiliated to Educational Institutions as well all hostels, such as Student hostels, Working Men/Women's Hostels receiving power supply on HT shall also be billed as per Tariff on Low Tension only. The same can be considered at par with Co-operative group housing society or a Person (receiving power supply on HT) as far as applicability of tariff is concerned, since in both the cases, the purpose of power supply would be for Domestic/Residential purpose.

2.20.18. Shri. Baburao Sagare of Bilcare Limited are having express feeder connection since March 2011.The power supply is not continuous (not 100%) due to which Bilcare Ltd is suffering badly. Bilcare Ltd recommends resolving these issues before even MSEDCL plans for increasing the tariff.

2.20.19. Shri Prakash Mahadev Khot of Ziddi Mumbaikar stated that the proposed tariff hike across all categories by MSEDCL as an attempt to cover and make up 15% electricity leakages by doubling the bills for agricultural pump energy. In addition, thereby the authority is covering the theft and corruption amounting to around 9000 crores rupees per annum

2.20.20. Shri. Nitin B. Tilak of Tata Motors Ltd. stated that the proposed power tariff is the most expensive among other states through increase in Demand Charges from existing

Rs.270 per kVA to Rs.565 per kVA for HT-I Consumers. He requested the Commission to revalidate MSEDCL's claims for exorbitant rise in rates of Demand Charges and Energy Charges over prevailing rates and consider lowering the tariff rates from FY2018-19 onwards. He also stated that the PF incentive becomes even more essential to ensure efficient use of at least 33% electricity procured by MSEDCL. Also, average saving in power purchase cost of MSEDCL (Rs.14225 Cr) is much higher than the average PF Incentive given to HT Consumers (Rs.1280 Cr). he therefore request the Commission to continue kWh billing and Power Factor Incentive in its existing form applicable to HT Consumers and do not allow kVAh billing as suggested by MSEDCL.

2.20.21. Shri Ajit Patil, Grasim Industries, Shri Kishor Kulbhaiyya, Shri Amol Gholap of Nikhil Industries, Shri. Sharad Chobe of Urja Manch, Shri. Vasant Waghmare of Waluj Industries Association, Shri. Hemant Kunte of Kaygaon Paper Mills Limited, Mayur Bangdiya of Prabhatinagar Sustainable Energy Private Limited has objected against any price hike as proposed by MSEDCL.and the measures taken by MSEDCL to increase operating efficiency.

2.20.22. Shri Harish Maru stated there is 21% electricity surcharge on total bill amount for commercial consumers and for residential it is 16% which is not reasonable, there are different rates of interest (12% for 3months 15% for 3-6months and 18% beyond 6 months) for each month. Fixed cost is for those who do not use electricity; it should not be taken from people/company who use electricity. Shri Sanjay Avhad stated in other State the Electricity Rate per unit Rs is ranges from Rs 2:00 to Rs 5:90. The 6% hike in tariff for residential users should not be increase as residential is already over burden.

2.20.23. Shri Uttam Shankar Saoudane stated that for agricultural pump customers per unit cost increased from Rs 1.95 to Rs 2.55 /unit and for LT consumers with agriculture meters cost has increased from Rs 3.26 to Rs 4.35. The produced crops does not get its appropriate cost. He also objected stating that the increased rate hike every year is unjust. Shri Balwant Kulkarni stated no increase in tariff upto 300 unit consumers

2.20.24. Adv. Anil Chavan Objector stated that Tariff rate for Domestic Consumer is more than HT Industrial and Commercial Consumers without any rebate and has six slabs. This is a huge tariff shock for Domestic Category and against Consumer Protection Act 1986. He has requested additional category for multiple storey residential buildings of housing societies for water pump, lift and common lighting and the tariff of the same shall be equal to LT public water work i.e Rs. 3.00 /unit without any slab and MD Charges.

2.20.25. Shri Loknayak Jaiprakash Narayan stated last year due to decrease in the cost of cotton in international market, it has become impossible to run the mills, in addition due to increase in the rate of electricity from past 3-4 years, it is becoming difficult to pay electricity bills.

2.20.26. Shri. Savio Pinto, stated that it is unfair to have 3 connected load slab categories for LT II Commercial and only 2 connected load slab categories for LT V Industrials. To avoid discrimination, there should naturally be identical Connected Load Slab Categories for both Industrial & Commercial Consumers. He requested MSEDCL to explain the Philosophy for the same, keeping in mind that there should be a level playing field for both Industrial & Commercial Consumers. This imbalance in Categories has been persisting for quite a few years. Absence of Demand Metering often leads to violation of Load Slab Limit & Negligence by Distribution Licensee / Electrical Inspection Authority compound the violation. The applicable Tariff to IT Parks is not specifically mentioned in the Order the Commission may please clarify the Tariff Category being billed to the Existing IT Parks considering that MSEDCL probably has the highest number of IT Parks in its area of supply. He also stated that deficient negligent Billing Standards & Procedures resulting in overburdening of other Honest Categories of Consumers like Residential Consumers.

2.20.27. Adv. Veejay Kumar Aggarwal stated that MSEDCL is proposing entire change in the Power Incentives and Rebates provided under the Tariff Philosophy of the current MYT Order, which is not permissible under law. He has also requested the Commission to create separate Category for Power Intensive Ferro Alloys and Steel industries with lower tariffs in the proposed MTR Order.

2.20.28. M/s Biyani Group India stated he is being charged approx. Rs 8 to 10/ unit while power exchange sells at rate between Rs 2 to 3 per unit. It tariff is hiked, it will be difficult for SSI and MSME sector to grow.

2.20.29. M/s Mahindra Sanyo, M/s Alloy Steel Producers Association of India (ASPAI) stated MSEDCL should provide the details of sales to own offices and confirm whether ay income from sale to own offices has been considered as part of non-tariff income or not. If not, the Commission should consider the same. He also adds that in FY 2018-19, Tariff increase in various States range from -(minus) 3.8% in Chhattisgarh to 5% in Bihar. There is no justification for seeking such high tariff increase of 15%, considering that other SERCs have restricted tariff increase to Approx. 1%, The Commission shall also approve tariff increase of 1% only.

2.20.30. Shri. M M Patel stated that in accordance with the prevalent rates of Fixed Charge which is Rs. 65 per month for every 100 units, but as proposed by MSEDCL for FY 2019-20 this rate has been increased to Rs. 140 per month. Since the consumption of electricity is for household purpose and not for commercial terms hence such increase in fixed charges is not acceptable

2.20.31. Shri. Anil Jain of XPRO India Ltd., states that MERC MYT Tariff Regulations, 2015 clarifies that there is limited scope for MTR Petition. The scope for MTR is only Revenue gap of MSEDCL has to be adjusted in the category-wise tariffs for third and fourth year of Control Period. Hence, any change in the Power Incentives/Rebates provided under Tariff Philosophy of MYT Order is void, illegal and not maintainable. He also adds that MSEDCL consumers got some relief from higher tariff by utilising the Power Factor Incentives by installing Capacitor banks in their units. Withdrawal of Power Incentives and introducing kVAh tariff increases Power Tariff substantially and disastrous for welfare of the industries in the MSEDCL area.

2.20.32. Shri Dhananjay Mahadik, Shri Prakash Pandurang Patil, Shri. Sayajirao Balawantrao Jadhav, Shri Umeshwar Sahakari Pani Purovta Sanstha, and Shri Rajendra Vasantrao Mane stated that to develop farmland, farmers have come together and registered with Government, for this they have mortgaged their house and farm lands to banks. Currently the cooperatives are facing problems of repair and maintenance of machinery and leakage of cement pipeline which has increased the expenditure. In addition, if the tariff rates are hiked there is a possibility of shutdown. Hence it has been requested not to approve the proposed changes by MSEDCL

2.20.33. Shri.Krushna Bhoyar of Maharashtra state electricity works federation and Shri Ashok M. Swami stated that the fuel adjustment charge and the rates for industrial HT-1 are 1.5 times more than other states the rate for HT 1 are raised by 2% i.e 6.98/kWh to 7.09/kWh. Also mentioned that. for cotton mills with machinery rates are also increased by 2% for 0-20 kW i.e. from Rs 4.59/unit to Rs 4.70/unit and for above 20 kw it is increased from Rs 5.95/unit to Rs 6.06/unit

**Tariff Cold Storage**

2.20.34. Shri. Prakash Goyal of Vidarbha Cold Storage Association, Shri. Tushar D Parakh, of Maha Cold Storage, Meghnand Agro food products and several others have stated that the MSEDCL in its MTR for FY 2018-19 and FY 2019-20, proposed a tariff hike of 24.42% for HT-V(B)-Agricultural others and 33.43% for LT-IV(C) Agricultural

Metered (others) consumers over the approved tariff of FY 2018-19. The Central Government in its policy framework on Cold Storage has clearly put onus on cold Storage operators to ensure design of the unit for a number of commodities and for a larger period through the year. The proposed tariff will burden the user and thus increasing the food inflation. Therefore, they have requested the Commission to reject the proposed changes outright and continue the tariff relief offered to the nationally important Cold Storage Industry.

**Applicability of Tariff**

2.20.35. Smt. Suman Waikar of MCGM requests the Commission to charge residential charges for the consumption of electricity for waste processing facilities such as Organic Wastes Converters, Bio-methanantion plant and vermi-compost units, etc. at residential rates instead of commercial/industrial rates. As the waste processing machines runs on 415 V for 12-18 hrs a day, while existing tariff applicability is as per the commercial tariff rates, which is 2-3 times the residential tariff.

**Tariff Shock**

2.20.36. Shri Samir Sane of Laghu Udyog Charti, Shri Sanjay K Rathi, N. K. Minda group and Shri. Raju Patil from Smak Bhavan stated more than 10% increase in tariff is considered to be tariff shock. Hence, as per directions of Hon’ble ATE, there should not be more than 10% increase in tariff in any of the categories.

2.20.37. Shri Atul Pande of Vidhrabha Industries Association (VIA) stated that The effective impact of entire proposal is ranging upto 40% or even above and therefore it amounts to tariff shock read with the Hon’ble ATEs order in this context. They also stated that MSEDCL in its prayer have mentioned that it has proposed rationalization of tariff. However, MSEDCL did not explain as to what was irrational in earlier tariff & how that irrational status is being proposed to be rectified. MSEDCL should explain in detail about the existing irrational issues compelling MSEDCL to propose modification along with justification of it.

2.20.38. Shri Suketu Shah, M/s. Shree Components & CR Jamdar, Shri Vipin G Jain of Mahindra Sanyo, Shri Ramesh Vartak and several others has requested the Commission not to allow any Tariff shock for the Control Period and limit Tariff increase accordingly. Shri Ravindra Vaidya of Laghu Udyog Bharti stated tariff shock should not be allowed by the Commissions it not within the framework of Act, Rules and Regulations and guiding principle laid down by Hon'ble ATE through various verdicts

***MSEDCL's Reply***

2.20.39. On reply to objections against proposed steep increase in Tariff (Tariff hike 22%): MSEDCL has submitted that, as compared to proposed Average Cost of Supply (Rs. 7.74 / unit) for FY 2018-19 with approved Average Cost of Supply (Rs. 6.71/ unit) for FY 2018-19 the tariff hike is 15%. However, no further tariff hike is proposed for FY 2019-20 over proposed rates of FY 2018-19.

2.20.40. **Tariff Comparison with other States:** MSEDCL has submitted that, while comparing tariff of MSEDCL with neighbouring States following contributing factors needs to be considered:

1) Differences in power generation and power purchase expenses considering the diversity in power generation sources and available power resources (thermal/Hydro/nuclear/NCE).

2) Variation in power purchase cost due to fuel sources and fuel availability (pit-head Stations).

3) Fuel cost increase due to transportation of coal from mines.

4) MSEDCL distributes electricity in the largest geographical area in India as compared to other Distribution Utilities.

5) Geographical diversity of the State.

6) Diversity in consumer mix and consumption pattern.

7) Economic/Industrial/Agricultural scenario of the State.

2.20.41. Following table shows No of Ag consumers, Ag sales and the approved Average Cost of Supply for various states for FY 17-18.

***Table 2-6: Comparison of ACoS , AG Sales and no of consumers with other states.***

| Particulars | Units | FY 17-18 | | | | | |
|---|---|---|---|---|---|---|---|
| | | Maharashtra | Gujarat | Karnataka | Tamil Nadu | Madhya Pradesh | Punjab |
| Number of Ag consumers | Nos | 41,78,268 | 14,96,255 | 26,30,875 | 21,43,696 | 26,89,708 | 13,00,465 |

| Particulars | Units | FY 17-18 | | | | | |
|---|---|---|---|---|---|---|---|
| | | Maharashtra | Gujarat | Karnataka | Tamil Nadu | Madhya Pradesh | Punjab |
| Agriculture Consumption | MUs | 30,643 | 19,455 | 19,323 | 11,195 | 20,750 | 11,812 |
| Average Cost of Supply | Rs/unit | 6.61 | 5.81 | 6.21 | 5.85 | 6.25 | 6.33 |

2.20.42. From the above table, it can be seen that MSEDCL's tariff are comparable to other states. It is pertinent to note that MSEDCL has more than 41 lakh Ag Consumers which are highest than any other utility in India. It is further submitted that, the present tariff rates for Agricultural consumers are almost 50% of Average Cost of Supply (ACoS). Ag Consumers are cross subsidized by HT Industrial, commercial and higher consumption bracket residential consumers. As MSEDCL is a revenue neutral entity, if the tariffs of any category are to be less than ACoS, it requires higher tariffs for other consumer categories. Hence, the suggestion of the consumer that the tariffs of both, subsidising as well as subsidised category, should not be increased is not feasible.

2.20.43. ABR of Industrial Consumers: MSEDCL submits that as per MYT Order dated 3rd November 2016, the Commission has provided various incentives to the consumers. Average Billing Rate (ABR) approved by the Commission for HT Industrial consumers for FY 2016-17 and 2017-18 are Rs. 8.57 and Rs. 8.61 respectively. However, after availing all the available incentives, actual realized Average Billing Rate of this category is Rs. 7.03 and Rs. 7.20 respectively. Hence, available incentives also need to be considered while comparing ABR. The ABR for HT Industrial Consumers for FY 17-18 for other states are as below:

| Gujarat | Karnataka (BESCOM) | Chhattisgarh | Tamil Nadu | Madhya Pradesh | Andhra Pradesh |
|---|---|---|---|---|---|
| 7.22 | 7.73 | 7.71 | 8.37 | 7.69 | 7.30 |

2.20.44. It can be seen that the HT Industrial tariff of MSEDCL are comparable with those in other states. It is also important to note that Government. of Maharashtra has been providing incentives to industries in Vidarbha, Marathwada, Uttar Maharashtra and D/D+ areas and this has further reduced the effective tariff for the industrial consumers in Maharashtra.

2.20.45. It is pertinent to note that MSEDCL has more than 41 lakh Ag Consumers which are highest than any other utility in India. It is further submitted that, the present tariff rates for Agricultural consumers are almost 50% of Average Cost of Supply (ACoS). Ag Consumers are cross subsidized by HT Industrial, commercial and higher consumption bracket residential consumers.

2.20.46. Specifically replying to objections related to Vidarbha MSEDCL has stated that GoM has provided tariff subsidy for the Industries in Vidarbha Region, which has resulted into lower tariff for the industries in that region. The Commission may take appropriate decision

2.20.47. While replying to Tariff hike of more than 10% or Tariff Shock MSEDCL has submitted that many SERCs, including MERC, have approved tariff hike of more than 10% in past and primary objective of forming SERCs was to allow correct and appropriate tariff to licensees and there is no limit on hike either in Act or under Regulation

2.20.48. **Multi commodity cold storage:** The word ‘Agricultural’ in tariff category itself clarifies that the activities related to agriculture only needs to be covered under LT-IV-C Agricultural - Metered Others category. Accordingly, to bring clarity into the tariff applicability, MSEDCL has rightly proposed that the cold storages storing agricultural produce in raw form should come under this category. Further, cold storages storing multi commodity products are proposed in industrial category. As far as cold storages are concerned, MSEDCL has not proposed any changes in the existing applicability of commercial category

2.20.49. On reply to objections related to Arrears Recovery to be done instead of Tariff Hike MSEDCL has submitted that it maintains its accounts on accrual basis, i.e. income and expenses are recorded as they arise, regardless of whether or not cash has actually changed hands. The financial statements have been prepared based on the accrual method of accounting in accordance with the generally accepted accounting principles and the provisions of the Companies Act as adopted consistently by MSEDCL. Hence, arrears do not have impact on revenue gap or tariff hike.

2.20.50. MSEDCL has proposed the tariff for various categories in accordance with the primary mandate of reducing cross subsidy burden as given in the National Tariff Policy 2016. Even though increase in Tariff of various categories of consumers is inevitable due to above said reasons and other essential legitimate expenses, MSEDCL takes appropriate precautions/measures to limit the rise in tariff rates by reducing Distribution losses, accurate billing by proper meter reading of utilized energy, increasing efficiency, utilizing latest technology, limiting Operations and maintenance expenses and implementing efficient Management schemes.

2.20.51. The proposed tariff hike is essential to recover all the legitimate costs of MSEDCL which are necessary for providing satisfactory consumer services and to ensure financial viability of MSEDCL.

2.20.52. MCGM in its submission has informed that it is planning to use Domestic Waste Processing units such as Organic Waste Converters, Bio-methanation Plants and Vermi Composting Units in the municipal markets, buildings, schools, hospitals, individual housing societies etc. and has suggested charging residential Tariff for such use. It has also mentioned that such plants generally run on 415 Volts and are required to run for at least 12-18 hours per day.

2.20.53. MSEDCL submits that the powers to determine tariff and its applicability for various consumer categories in Maharashtra are vested with the Commission.

2.20.54. MSEDCL further submits that considering the nature of use of converting one form of bio-degradable material into another usable form is analogous to industrial production. Considering the nature of usage, supply voltage and usage per day, MSEDCL suggests that this activity may be included under Industrial Tariff category.

2.20.55. Tariff hike is required due to:

i. Increase in expenses towards Depreciation, Long term loans, Return on Equity etc. due to increase in capital expenditure.

ii. True up of additional expenses for previous years

iii. Increase in power purchase costs due to increased demand;

iv. Revenue Gap due to the deviation in the estimated and approved revenue.

v. Impact of orders from various Regulatory Authorities;

vi. Burden on MSEDCL due to approved revenue for MSPGCL and MSETCL.

2.20.56. The Commission, in its Tariff Order dated 3 November 2016, approved tariff hike of only 1.2% to 2% for FY 16-17 to FY 19-20. Considering the prevailing Rate of Inflation of around 6%, the tariff hike approved by the Commission was very low.

2.20.57. The Commission, in its order dated 20 November 2017 on the review petition, approved certain points raised by MSEDCL and ordered to include the impact of the same in the MTR petition.

2.20.58. In the MTR petition, there is a gap between revenue approved by the Commission and the actual/expected revenue during FY 2015-16 to FY 2019-20. The major reasons for this gap are:

i. Consumer mix changed and Open Access quantum increased during FY 2015-16 and FY 2016-17 as compared to that approved in the MYT Order;

ii. For FY 2016-17, sales of HT Industrial consumers decreased by around 3% than that approved in MYT order;

iii. The revised tariff approved by the Commission in Tariff Order came into effect from 1 November 2016 instead of 1 April 2016.

2.20.59. The impact of the carrying cost arose due to delayed approval of timely recovery is included in the revenue gap.

2.20.60. The proposed tariff hike is essential to recover all the legitimate costs of MSEDCL which are necessary for providing satisfactory consumer services and to ensure financial viability of MSEDCL. Even though increase in Tariff of various categories of consumers is inevitable due to above said reasons and other essential legitimate expenses, MSEDCL takes appropriate precautions/measures to limit the rise in tariff rates by reducing Distribution losses, accurate billing by proper meter reading of utilized energy, increasing efficiency, utilizing latest technology, limiting Operations and maintenance expenses and implementing efficient Management schemes

2.20.61. MSEDCL submitted that it is also necessary to consider the incentives offered by MSEDCL as compared to other states. Considering this, it is not appropriate to compare the stand-alone Tariff of MSEDCL with the tariffs of other State Distribution Utilities. In the submitted objections, objector have not referred to any category or state for comparing electricity tariffs. Hence, no specific comment on particular category wise tariff can be provided.

2.20.62. MSEDCL has proposed only 8 Paisa per unit rise in tariff of residential consumers in 0-100 units consumption slab. Around 1.2 Crore (~70%) residential consumers fall in this consumption slab. For other residential consumers, 5 to 6% hike in energy charges has been proposed. This proposed tariff hike is purely to meet the increased in costs due to inflation and additional costs which are beyond the control of MSEDCL. Further, MSEDCL has also proposed a rebate of 0.5% on bill amount for LT consumers making bill payment using online payment facility.

***Commission's Analysis & Rulings***

2.20.63. The Commission has analysed in detail MSEDCL's proposal for power purchase and other costs before determining the Tariff revision in this Order. It has allowed prudent power purchase and O&M expenses as against those proposed, which has helped to maintain the level of Tariff increase over the 3rd Control Period.

2.20.64. With regards to MCGM request in respect of applicability of residential tariff on domestic waste processing units in the municipal markets, buildings, schools, hospitals, individual housing societies etc. the Commission has dealt with this issue in Chapter-9 and Tariff Schedule of this Order. The Commission has examined the submissions of MCGM and notes that, in case of waste processing / disposal facility is present in a premise, exclusively for processing the waste generated within the premise, the tariff applicable to such premise / consumer is applicable to the waste disposal facility as well. However, considering the nature of services provided, as far as the waste disposal facilities operated by local self-government bodies are concerned, they may be categorised under LT III or HT IV (Public Water Works and Sewage Treatment Plants) and the waste disposal facilities operated by private operators may be categories under the LT X(B) or HT VI (B) – Public Services Others.

## 2.21. Separate Tariff for EV Charging Consumers

***Objections/Suggestions***

2.21.1. Prayas (Energy Group) – Institutional Consumer Representative stated that MSEDCL's proposal for separate category for electric charging stations needs to be re-evaluated in the next control period based on uptake and use. MSEDCL also proposed to establish charging station on which PEG has requested to treat such business as an unregulated business.

2.21.2. Shri. Mohammed Turra of Mahindra and Mahindra Ltd. stated as per the Maharashtra EV Policy and the national ambition for EVs, the Tariff structure for EV charging should be at INR 5.5/kWh with a flat rate for LT/HT connections as compared to INR 5.8/kWh proposed in the MTR Petition. They have also stated that states like Gujarat, Delhi, and Karnataka have already announced a separate category Consumer category and also considered incentives such as time of day pricing, waiver of FC and so on. Hence, it has also been requested to consider ToD Tariff structure if possible to encourage charging during off peak hours.

2.21.3. Shri Manish Kumar of Zoomcar India Pvt. Ltd. stated in order to enable the achievement of the targets set by the Government of India under the NEMMP 2020, the tariff structure for EV charging should be 50% of the existing domestic tariff rate in the range of INR 2-4/kWh. Attractive power tariff rate at public charging infrastructure could be considered to enhance utilization of EVs in the cities like Mumbai, Pune, Nagpur etc. in the state of Maharashtra

***MSEDCL's Reply***

2.21.4. MSEDCL has submitted that in order to provide incentives in tariffs to kick start the EV Technology and boost environment friendly electric and hybrid vehicles, MSEDCL, in its MTR Petition has proposed to create a separate category for the Electric Charging stations/ Centres for electric vehicles with following Structure-

i. Energy Charge: Rs. 6 per Unit

ii. Fixed and Wheeling Charges as applicable to respective HT/LT Category;

iii. However, in case individual consumer uses electricity for charging own vehicle at his premises, applicable tariff will be as per parent category;

2.21.5. MSEDCL has proposed the tariff for Electric Vehicles close to its Average Cost of Supply (ACoS). If tariff rates are kept at the level proposed in the referred letter which is much less than ACoS, it will lead to burden of Cross Subsidy on other consumers increasing their tariff.

2.21.6. Hence, the tariff proposed by MSEDCL for Electric Charging stations/ Centers for electric vehicles is appropriate.

2.21.7. Further, the Commission may consider providing the ToD tariff for this category while determining tariff for FY 18-19 & FY 19-20.

***Commission's Analysis & Rulings***

2.21.8. The Commission notes that the Government of Maharashtra (GoM) has recently notified the Maharashtra Electric Vehicle Policy, 2018, with an objective to promote sustainable transport system along with other policy objectives. One of the strategic driver for the Policy is promotion of creation of dedicated infrastructure for charging of EVs through subsidization of investment.

2.21.9. Accordingly, in order to promote EVs, the Commission has decided to create separate tariff category for EV Charging Stations. As a promotional measure, the Commission has considered lower Demand Charges for this Category and ensured that resultant Tariff is near the ACoS. Detail of applicability of this Category is provided in the Tariff Schedule for the respective years. It is further clarified that consumers are allowed to charge their own Electric Vehicle at their premises with the Tariff applicable to such premises falling under the respective consumer category.

## 2.22. Time of Day Tariff

***Objections/Suggestions***

2.22.1. M/s Eternity Legal of Green Energy Association, Retailers Association of India stated that MSEDCL has not provided any substantive study, which was to be provided as directed in the MYT Order by the Commission. Therefore, such proposal of MSEDCL is unsustainable and unjustified. Hence, for time being the Commission should not allow the revision in ToD charges as proposed by MSEDCL.

2.22.2. Shri Ajay Govind Baheti of Bhagwati Steel Cast Pvt Ltd and Shri. Raghunath Kaparthi, M/S Balaji Electrosmelters Ltd., and others stated that as noticed, per hour slot consumption in slot D is higher compared to other slots, tariff was increased to 110 Paisa/unit by the Commission. After consumers shifted from slot D to B & C, per hour consumption is less, still MSEDCL is proposing to increase per unit charge from 110 Paisa/unit to 150 Paisa/unit. They also added that slot A& D are merged, so that consumers are motivated to shift their load from slot B & C for further load flattening. Thus, they have requested the Commission to club slot A&D and provide rebate of 150 p/u from 18:00 to 6:00 Hrs.

2.22.3. Shri. Anil Jain of XPRO India Ltd, Shri. Sachin K Japtap of Sigma Electric Manufacturing Corporation Pvt. Ltd. stated that MSEDCL's proposal to increase ToD tariffs during 18:00 to 22:00 hours from 110 Paisa/unit to 150 Paisa/unit will increase the average cost of power. The industries cannot be kept in non-working condition for 4 hours in a day. In addition, Mayur Bangdiya of Prabhatinagar Sustainable Energy Private Limited has requested MSEDCL to provide hourly load data for last 36 months.

2.22.4. Shri SK Gupta, Shri. S K Arrora (Sunflag Steel) stated the Commission has always encouraged the industries to utilize maximum power in Off peak hours i.e. at night hours (from 22.0Hrs to 6.0Hrs). The increase in ToD slot 18.00 Hrs to 22.00 Hrs by Rs 0.4 /unit over present rate. This will adversely affect the energy cost. For Steel Industries, the ToD rates of energy drawn at night be reinstated at its earlier level of Rs. 2.50/kWh, without disturbing existing ToD structure.

2.22.5. M/s Mukand Infinite Resolve stated that in reference to clause 7.27.3, most expensive zone in ToD is of 4 hours only. As such, MSEDCL is claiming that they have surplus/ sufficient power quantum available throughout the day with them and in such conditions, it is illogical to levy extra charges on the consumer during this period. Furthermore, he also requested the Commission that the ToD rates of energy drawn at night to be reinstated at its earlier level of Rs 2.50/ kWh (less than base rate), without disturbing existing ToD structure.

2.22.6. Shri Ajit Patil of Grasim Industries, Adv. Veejay Kumar Aggarwal has requested the Commission to club Slot A and Slot D together and provide Rebate of 150 Paisa/unit for 12 hours instead of 8 hours during 18:00 to 06:00 hours.

***MSEDCL's Reply***

2.22.7. Replying to queries raised regarding Revision in Time slots of ToD tariff structure MSEDCL has submitted that the very basic purpose of TOD tariff is to shift the load from peak to off-peak hours and avoid spikes in the demand pattern. Hence, no changes has been proposed in the rebate of non-peak hours i.e. 2200 hrs. To 0600 hrs. Revision in ToD tariffs on other slots have been proposed keeping in view the existing demand pattern as well as the trend in change of consumption pattern of the consumers in last few years and to encourage the consumers to shift their load to non-peak hours in order to achieve the desired load curve.

2.22.8. The reason of "high temperature the load on air conditioning system" as submitted by the consumer is not the only base for arriving at the peak hours, as there are many other factors involved in this. MSEDCL has proposed the ToD considering the trend in change of load pattern in the last few years.

***Commission's Analysis & Rulings***

2.22.9. The Commission observes that ToD Tariff design and need for revision in ToD slabs thereof would depend on several factors such as change in the load curve, demand side measures, overall system demand management measures in vogue etc. Appropriately devised ToD incentive/dis-incentive scheme acts as useful tool to modulate consumer behaviour to desired outcome while accomplishing overall load-generation balance and shall facilitate power system operations. In state-wide centralised merit order based load-despatch scenario the ToD pricing scheme cannot be devised in isolation and should be uniformly applied for all distribution licensees.

2.22.10. As this issue has to be seen in totality across all Licensees, the Commission will take a view on proposals to modify the ToD time-slots and/or ToD slot-wise tariffs in the next Control Period.

**2.23. Tariff Re categorisation**

***Objections/Suggestions***

2.23.1. Shri Divesh Rawal stated MSEDCL should carry out uniform categorisation of consumer, which will make tariff Order simple and easy to understand, Tariff for Student Hostel for HT Consumer to be merged with Tariff applicable to Group Housing Soc, Simplification of tariff categories and rationalisation of retail tariff as per the recommendation in the Draft Tariff Policy, LT Temporary Power (Others) supply can be eliminated and merged with the LT Commercial category, as such proposed merger will not have adverse effect on the revenue income of MSEDCL and to encourage all HT consumer shift to 33 kV level supply, to reduce line loss and improve the system.

2.23.2. Shri Ajit Patil stated to create separate Category for Power Intensive HT-1 Industries with lower tariffs for the areas where there is non-availability of 33kv and/or higher voltage line infrastructure. He also stated to club Slot A and Slot D together and provide Rebate of 150 paisa/unit for 12 hours instead of 8 hours during 18:00 to 06:00 hours.

2.23.3. Shri. Raghunath Kaparthi, M/s Balaji Electrosmelters Ltd., and others State concessional power tariff of 100 Paisa/unit to new consumers is a subsidy which cannot be allowed u/s 62(3) of the Act. State Government may provide subsidy to new consumers u/s 65 of the Act. Therefore proposed tariff is illegal and void and Regulation 78.4 of MYT Regulations, 2015 attract such kind of rebates.

2.23.4. Shri Atul Pande of Vidhrabha Industries Association (VIA) suggested separating Residential category into cross-subsidised and cross-subsidising category. Shri. Vasant Waghmare of Waluj Industries Association requested to create separate category for power intensive Ferro Alloys and Steel Industries with lower tariffs as done in the neighbouring States of Chhattisgarh, MP and Telangana. Also suggested not to create sub category to new consumers by providing 100 Paisa/Unit concessional power tariff. Shri. Parag Sancheti from Rubicon Research has requested to consider the independent "Research & Development Unit" at par with parent industry.

2.23.5. Shri. Vivek Dharurkar of Bharat Forge stated that introduction of new consumer is unnecessary and is also not permitted under Section 62(3) of EA 2003.

2.23.6. Shri. Sujit Chakaravarty of Kohinoor Group of circus requested MSEDCL to provide connection as commercial consumers and not temporary commercial since they use electricity for tents of women, men and animals and for decoration purpose, they use generators.

2.23.7. Shri. Gautam of Retailers Association of India strongly objected the introduction of New HT Consumer Category with lower tariff (as low by Rs.1). Providing competitive tariff is also the prime responsibility of the utility and any incentive to the new consumers cannot be provided on account of burden to the existing consumers. Also, suggested MSEDCL to consider reduction of tariff for all the consumers, which shall attract outgone consumers towards its home network than availing Open Access.

2.23.8. Shri Dilip Datawani of Hotel & Restaurant Association (Western India) stated MSEDCL's proposal of lower tariff for New HT Commercial consumers is lower than the existing tariff for HT Commercial consumers and this would be a burden on other consumer categories.

***MSEDCL's Reply***

2.23.9. For queries related to New category between 0-100 and 101-300/clubbing of all category consumers consuming upto 300 units/separate slab for more than 500 units/tariff of high consumption residential bracket higher than commercial consumers MSEDCL has submitted that it is a revenue neutral entity. Any restructuring of slabs/categories/consumption bracket may result into equal impact on some other slabs/categories/consumption bracket. Further, it is necessary to consider few other factors such as socio-economic conditions, ability to pay, cross-subsidy structure etc. while determining the tariff structure

2.23.10. As per the Maharashtra Tourism Policy, 2016, Tourism Department has declared Nagpur, Aurangabad and Sindhudurg districts as Tourism districts. Government of Maharashtra vide its letter No. Sankaran 2017/Pra.Ka.235/Urja-5 dated 7 March, 2018 has informed MSEDCL to approach the Commission for application of Industrial tariff to such hotels in the above said districts who have received ‘Eligibility Certificates’ from Maharashtra Tourism Development Corporation. Accordingly, MSEDCL proposes to charge Industrial Tariff to hotels in Nagpur, Aurangabad and Sindhudurg districts; having eligibility certificate issued by Maharashtra Tourism Development Corporation

***Commission’s Analysis & Rulings***

2.23.11. Applicability of Tariff and consumer categorisation were among the issues most frequently raised during the public consultation process. In the Section on Tariff philosophy in Chapter 9 of this Order, the Commission has elaborated its views regarding consumer categorisation and applicability of Tariff for various categories including applicability of industrial tariff to hotels in Nagpur, Aurangabad and Sindhudurg districts; having eligibility certificate issued by Maharashtra Tourism Development Corporation.

## 2.24. Cross Subsidy and Cross Subsidy Surcharge

***Objections/Suggestions***

2.24.1. M/s Eternity Legal Ceiling stated that as per EA 2003 Cross subsidy and Cross subsidy surcharge shall be progressively reduced in the manner as specified by state Commission. As per the National Tariff Policy, 2016 the CSS computation and further states that surcharge shall not exceed 20% of tariff applicable to the category of consumers seeking Open Access. Hence, it has been requested that proposal of MSEDCL to prescribe CSS without any ceiling shall be disallowed.

2.24.2. Shri Atul Pande of Vidhrabha Industries Association (VIA) stated the cross subsidy in OA is huge. VIA has enclosed suggestion on reduction of cross subsidy in tariff and pointed out the following: 1) Category wise ABR is misplaced and should be on actual revenue from that category 2) For computation of 'C', which is considered to be average of 5% of highest rate of power purchase is incorrect.

2.24.3. Shri. S. P. Shinde of Bajaj Finserv stated that the procedure for determination of CSS is deviated by MSEDCL from NTP's formulae to derive exorbitant surcharge. Also stated that levy of CSS after one year from permitted open access is not required.

2.24.4. Shri Nitin Deore of Daksha Infrastructure Pvt Ltd, Shri Manish Kedia of Kores (India) Ltd and Deesan Agro Tech. Pvt. Ltd., Shri S S Joshi of B F Utilities and several others stated that the Commission should re-introduce 75% concession in CSS to RE OA transactions to promote RE. Necessary actions to be initiated to reduce CSS as per directives of National Tariff Policy.

2.24.5. Shri. Nitin B. Tilak of TATA Motors Ltd. requested the Commission to abolish MSEDCL's proposal for enormous hike in Cross Subsidy Surcharge (CSS) and revalidate the working of CSS so that Open Access business in Maharashtra will function & grow in competitive environment. Shri. Nitin B. Tilak of Tata Motors Ltd. requested the Commission to bring down total Open Access charges at par with other charges of MSEDCL to stop discrimination and bring competition in Open Access business. He also requests the Commission to direct MSEDCL to implement necessary corrections in its Open Access billing program to stop incorrect application of CSS and Additional Surcharge on captive wind units and refund the excess CSS & Additional Surcharge wrongly recovered from Tata Motors Ltd (Open Access Consumer) till date.

2.24.6. M/s Mukand Infinite Resolve, Mahindra Sanyo, Alloy Steel Producers Association of India (ASPAI), Shri Gautam Jain of Retailers Association of India and several others stated that the proposal to prescribe CSS without any ceiling shall be disallowed and restriction as mentioned in the tariff policy shall be considered. Moreover, the Commission should note that in draft tariff policy, the charges so determined shall be payable by OA consumer has been fixed at 1 year.

2.24.7. Shri Manish Singh of Indian Wind Energy Association requested the Commission to continue the earlier approach which is as per the Revised Tariff Policy, 2016, while determining the Cross Subsidy Surcharge as the minimum of the determined surcharge or the 20% of the determined tariff as the CSS and necessary actions to be initiated to reduce cross subsidy surcharge as per directive of National Tariff policy.

2.24.8. Shri Ashok M. Swami stated For HT category for 2018-19 the proposed surcharge for express feeder is Rs 3.53/unit and for non-express feeder is Rs 4.50/unit while for 2019-20 it is Rs 3.38/unit and Rs 4.40/unit respectively. It is requested to completely disallow the additional surcharge.

***MSEDCL's Reply***

2.24.9. For queries related to Cross Subsidy Surcharge MSEDCL has submitted that as per the provisions of the EA 2003, the Cross Subsidy Surcharge (CSS) is a compensatory charge to the Discom. As held by Hon'ble ATE, New Delhi, CSS is not only to compensate the Discom for the loss of cross subsidy, it is also to compensate the remaining consumers of the Discom who have not taken Open Access. Therefore, CSS needs to be based on the current level of cross subsidy.

2.24.10. Further, in the consultation paper by MoP dated 24th August 2017, it has been proposed that:

2.24.11. "It is essential for SERCs to implement both Para 8.3-2 and First proviso to para 8.5.1 of the Tariff Policy 2016 simultaneously. If one of the provisions could not be implemented due to some reason, the second provision should also not be implemented to that extent."

2.24.12. It means that unless the tariffs of all categories are not within ±20%, the CSS cannot be limited to 20% of tariff. Therefore, MSEDCL has proposed CSS based on the formula in Tariff Policy 2016 without putting any ceiling. Otherwise, its burden will be passed on to common consumers of MSEDCL for no fault, as we made out clear in our presentation during public hearing. For last three years, ceiling on CSS resulted in cumulative financial burden of about Rs. 1150 Crores on consumers.

2.24.13. MSEDCL further submitted that when a consumer opts for open access, the loss of cross subsidy remains a loss to the Discom thereafter and CSS does not make good such loss in one year. Hence there is no rationale for limiting the CSS for just one year. Moreover section 42(2) of EA stipulates the levy of CSS and restricting CSS to one year will be in contravention to the provisions of the act.

2.24.14. MSEDCL further opined that increasing trend of 'retrofitting' oneself as captive power plant so as to somehow evade CSS and additional surcharge by misusing the provisions of Electricity Rules 2005 is alarming and requires to be taken judicial note of. Similarly, such evasion of CSS and additional surcharge affect the revenue of MSEDCL and such under recovery gets passed on to its other common consumers resulting into increase in their tariff for no fault on their part. Therefore, MSEDCL has requested the Commission to make the additional surcharge applicable to all Open Access consumers including OA consumers sourcing power from Captive Power Plants as well.

***Commission's Analysis & Rulings***

2.24.15. The Commission is conscious of the need to gradually reduce cross-subsidy. Further, in this MTR Order, the Commission has effected a reduction in cross-subsidy to some extent, as will be seen in the Table on cross-subsidy at the existing and proposed Tariffs in at Chapter 9 of this Order, which also deals with the determination of CSS and applicability of additional surcharge for converted GCPP category as elaborated in the relevant section of this Order.

## 2.25. Open Access

***Objections/Suggestions***

2.25.1. Shri. S K Parik, stated the Objective of the Act is to promote competition, rationalisation of Tariff promote efficient and environmentally benign policies and protect the interests of consumers. He has highlighted that the Commission should take note of Open access and related issues such as procedure has become complicated, increase in CSS, Additional surcharge and Wheeling charges. Shri. Nitin B. Tilak of Tata Motors Ltd. requested the Commission to bring down total Open Access charges at par with other Open Access charges to stop discrimination and bring competition in Open Access business for sustainable growth of Maharashtra state and its stakeholders.

2.25.2. Shri. S.P.Shinde of Bajaj Finserv stated that since SEMs are installed at RE injection end and receiving end at open access consumer, adjustment of RE in kVAh is to be implemented by MSEDCL from the day one of applicability of revised tariff.

2.25.3. Shri. Vivek Dharurkar of Bharat Forge has strongly objected to increase in Open Access Charges as proposed by MSEDCL.

2.25.4. Smt. Sheela Shivraj stated that at present OA consumer has to pay CSS at the rate of Rs. 1.80 per Unit and 2.72 per Unit for HT industrial and commercial consumers, wheeling charges at the rate of Rs 0.82 per unit and additional surcharge at the rate of 1.11 per unit. Apart from these charges, OA consumers has to bear OA permission charges, Joint meter reading charges etc. CPP consumers are facing difficulties and are unable to use their own power hassle free. The Commission has extensively dealt with these issues while fixing the Tariff for 3rd control period and the existing rate are so high that there is absolutely no need to revise the same. Revision in these rates should not be allowed on account of mismanagement, inefficiency and failure on the part of MSEDCL.

2.25.5. M/s Vidyut Urja Equipments stated that MSEDCL has proposed applicability of transmission charges to 3 consecutive STOA at the rate of that of MTOA. The proposed transmission charges shall not be applicable for the STOA/MTOA through Renewable sources, since the charges are based on kWh basis and not on capacity contracted as read in MERC Order on determination of transmission tariff for Intra state transmission system (InSTS) for MYT Control period (FY 2016-17 to FY 2019-20)

2.25.6. Shri. Gautam Jain of Retailers Association of India and several others stated that for Short term open access transmission charges, due to multiple interpretation issues raised by MSEDCL in addition to dynamic power trading market scenario, commercial viability of Open Access route has become an uncertain aspect which leads to application for short term open access. The present submission may please be interpreted as another attempt to burden the OA consumer with additional charges leading to unviability of the route. Hence, requested the Commission to disallow the proposal.

2.25.7. Shri Dilip Datawani of Hotel & Restaurant Association (Western India) stated that MSEDCL has proposed to charge STOA Transmission Charges on the basis of Rs/kW/Month from existing Rs/kWh method. Such change in practice will impact Commercial viability for OA consumers.

***MSEDCL's Reply***

2.25.8. For queries related to OA Charges MSEDCL has submitted that it has been observed that some of the Open Access consumers are misusing certain provisions of the present MERC Open Access Regulations. E.g. the consumers are seeking open access for a period of one month under short term open access for consecutive period of more than

3 months which actually should have come under the medium term open access. The Commission has determined the transmission tariff for medium term and short-term users in terms of Rs./kW/month and Rs. /kWh respectively. To avoid the transmission charges in terms of Rs./kW/month, the consumers are seeking short-term open access for consecutive months (>3months) instead of opting for medium term open access. Thus they are not only misusing the provisions of the Regulations but also putting additional financial burden on MSEDCL which in turn is getting passed on to the consumers of MSEDCL by way of increased tariffs. MSEDCL further submits that it has to pay the transmission charges to STU on the basis of MW irrespective of the actual consumption and therefore the difference in the amount is a burden on the consumers of MSEDCL which actually needs to be borne by open access consumers. Hence, MSEDCL has proposed the short term open access charges in terms of Rs./kW/month instead of present Rs/kWh.

2.25.9. MSEDCL also submitted that, a committee constituted by CEA made certain suggestions on frequent shifting of Open Access Consumers. In the Consultation Paper based on the report of the above committee following observation is made:

2.25.10. Distribution Licensees are unable to manage power procurement efficiently due to the high frequency of shifting of Open Access consumers between Distribution Licensees and other source of power."

2.25.11. The consultation paper also observed that: "Whereas open access consumers are allowed to re-schedule their energy drawal based on the daily energy requirement, Distribution Licensees irrespective of the drawal pattern of the open access consumers, under universal service obligation is required to keep its entire generation and transmission capacity available for the consumers. In such a scenario forecasting demand for the ensuing day becomes challenging for the Distribution Licensees. Considering the immense growth in number of open access consumers and the fluctuation in the energy drawal from open access, it is now imperative that frequency of switching is modulated in such a way that Distribution Licensees s are not unduly burdened by their obligation to provide supply."

2.25.12. Considering the same, the Open Access charges need to be based on period of confirmed schedule or degree of certainty which will eventually lead to incentivizing consumers who assist Distribution Licensees in improving accuracy of demand forecasts and in adhering to schedule.

2.25.13. For objections regarding MSEDCL's high tariff and consumers opting for OA MSEDCL has submitted that considering the available incentives to Industrial consumers in MSEDCL area, the effective tariff (ABR) of MSEDCL is comparable to that in other states. The consumers are opting for Open Access because their effective tariff is low for following reasons:

i. They are paying very less Cross Subsidy Surcharge due to ceiling by the Commission

ii. Up to FY 2015-16 Additional Surcharge was not determined for OA consumers,

iii. Many of the IPPs have converted to Group captive by misusing the provisions of Electricity Rules 2005 to get exemption from levy of CSS and Additional Surcharge.

2.25.14. Replying to objections raised as MSEDCL being against Open Access: MSEDCL submitted that it want Open Access Consumers to pay the appropriate charges as envisaged in the Electricity Act to avoid undue burdening on the other consumers. MSEDCL also proposes to amend some of the provisions of Regulations where it is observed that OA consumers are misusing the provisions or getting undue benefit at the cost of other consumers.

2.25.15. For queries regarding settlement of OA consumers MSEDCL has submitted that Special Energy Meters (SEMs) are installed at all consumers sourcing power through Open Access. The SEM records kVAh in 15 minutes time block. As per Clause 3.2 of MERC (Distribution Open Access) Regulations, 2016, for the purpose of unit conversion from MVA to MW, the unity power factor is considered. At unity power factor MW=MVA, thus the settlement of scheduled power in KVAH with consumer's consumption in kVAh in the corresponding 15 min slot can be done. In case of OA consumers sourcing power through RE generator, SEM meter is installed at both generator and consumer end that records, KVAh reading in 15 min slot which can be used for the settlement of power. Further, MSEDCL proposes to maintain the record of kWh readings & kVAh readings and loss projection and reduction can be done accordingly.

2.25.16. As per Universal Service obligation (USO) MSEDCL has to consider the demand of all consumers including Open Access consumers (initially being the consumers of MSEDCL), while carrying out its long-term power planning. However, when such

Open Access consumer source its power requirement either partially or fully from other than MSEDCL sources, this results into surplus power situation for MSEDCL to that extent. This results into financial impact to the common consumers of MSEDCL for no fault on their part. In order to share this financial impact due to Open Access consumers, MSEDCL propose to consider levy of Additional Surcharge to Open Access consumers.

2.25.17. Further, in order to ensure up to 95% availability of generating plants and to ensure the reliable power supply from the generating plants as per the Target Availability during high demand period, MSEDCL has filed a petition with the Commission.

***Commission's Analysis & Rulings***

2.25.18. The Commission has notified Distribution Open Access Regulations, 2016 on 30 March 2016 after due public consultation. After following the process, the Commission has decided about the eligibility requirement of Open Access, procedure and timeframe of granting Open Access by the Nodal Agency and the applicable Open Access charges.

2.25.19. The Commission has dealt with the issues relating to Open Access charges as well as retail Tariff applicable to Open Access consumers in Chapter 9 of this Order. In Chapter 9 of this Order, the Commission has dealt with the determination of Wheeling Charges, CSS, and additional Surcharge, which have an important bearing on OA transactions. It has also revised the retail Tariff for the industrial and commercial categories which predominantly include the eligible OA consumers.

2.25.20. On a specific issue related to Transmission / Wheeling Charges applicable to OA and duration of Open Access, the Commission gave the following rulings vide Order dated 4 May 2018 in Case No. 8 of 2017.

*"8.7The Commission also notes that the Transmission Charges for STOA transactions are being determined on Rs/kWh basis for a long time, since the Tariff Order dated 10 September, 2010 in Case No. 103 of 2009…*

*……………………………….*

*However, the Commission recognizes concerns that the present regulatory framework may make it worthwhile for some consumers to avail STOA even if their requirements are consistently for longer periods and who could have taken MTOA or LTOA instead; and that this has some implications for Distribution Licensees. At the same time, the interests of consumers who want access to the full range of choices offered by the Power Exchanges or who may have regular Open Access requirements but not over the whole month have to be considered. In these proceedings, the manner in which a balance could be struck has not emerged.*

*8.8 Nevertheless, considering the intent and purpose of the provisions for different OA durations, the Commission believes that it would be worth revisiting them in terms of introducing some limitations, or for transition of STOA to MTOA after some consecutive periods.* ***The Commission may separately undertake an exercise to examine the issues involved and the alternatives, keeping in view all these considerations. Thereafter, in any case, public consultation would be required for any amendments to the Regulations.*** *The 'removal of difficulties' provisions of the Regulations are not relevant to such changes, nor can they be made through orders or Practice Directions.*

2.25.21. The Commission in its recent Order dated 19 June, 2018 in Case No. 98 of 2017 has also ruled as under:

*"9.2 The Commission further noted that* ***it may shortly undertake an exercise to examine the issues involved and the alternatives, keeping in view all these considerations****. Thereafter, in any case, public consultation would be required for any amendments to the Regulations."*

2.25.22. In view of the above, the Commission would separately undertake an exercise to examine the issues involved in Open Access, keeping in view all these considerations.

## 2.26. Revision in definition of Billing Demand

***Objections/Suggestions***

2.26.1. Shri. Sudhir Budhay states that the generation adjustments limited to 90% discourages the consumers to put larger capacity plants, which is against the initiative by Central Government to motivate people to go for green power. Moreover, 10% saving will not add much to MSEDCL's perceived savings. He states that the limit of "sanction load" was put considering the technical reason i.e., the capacity of transmission lines to the consumer premises. If MSEDCL is trying to reduce the capacity of GCRT by limiting to 50%, it may prove absolutely wrong as consumers can enhance their sanction load and get in the framework of law and still install desired capacity.

2.26.2. Shri. Ajay Govind Baheti of Bhagwati Steel Cast Pvt Ltd, Shri. Raghunath Kaparthi, M/S Balaji Electrosmelters Ltd., and others requested to control misuse of LFI by exceeding Contract demand (CD), Chhattisgarh stipulated, "Load Factor Rebate not applicable on excess energy consumed corresponding to exceeding Contact Demand for that month", "during off peak hours, no additional charges will be levied on exceeding Contract Demand upto a maximum limit of 20%". the Commission may impose same restrictions for increased contract demand in off peak (22:00 to 6:00 Hrs) and control taking advantage of higher LFI which will increase consumption in night by increased load during night hours. the Commission may impose same type of restrictions for increasing contract demand in off peak hours from 22:00 to 6:00 Hrs and control taking advantage of availing higher LFI, which will encourage consumption during night hours. MSEDCL proposing actual max demand or 90% contract demand whichever higher, which is comparative higher than neighbouring states. Due to this, during the time of repair and maintenance for more than one month, industries have to pay more demand charges and incur production loss. They also requested the Commission to not make any changes in Billing Demand.

2.26.3. M/s Eternity Legal stated the Billing Demand definition in case of HT Industrial Consumers had been modified by the Commission by removing the clause 'min. 50 kVA' vide its Order Dated January 10, 2002 in Case No. 1 of 2001. The Proposed change in the definition of Billing Demand would lead to increment in the fixed charges/demand charges being charged to the HT Consumers. There is no proof provided by MSEDCL's to support its submission where, some consumers exceeded demand during night-time. Further, the present provisions provide for demand penalty if the Contract demand is breached. Hence, it is requested to the Commission that such proposal by MSEDCL shall not be accepted.

2.26.4. Shri Atul Pande of Vidhrabha Industries Association (VIA) stated the definition of Billing demand is creating huge impact on effective tariff. The factories having single shift operations or seasonal operations would be badly affected with such mechanism

2.26.5. Shri. S K Arrora of Sunflag Steel stated that to cater the steel making process in Arc furnace, the contract demand will always be high. Making the billing demand as 90% of contract demand against existing 50 % of contract demand, will increase the fixed Charges enormously.

2.26.6. Shri Manish Kedia of Kores (India) Ltd. and Shri Nitin Deore of Daksha Infrastructure Pvt Ltd suggests that the Commission should not consider MSEDCL's pray for change in billing demand definition. If MSEDCL wants 90% of CD as billing demand then Additional Surcharge should be waived off to OA consumer.

2.26.7. Shri. S.P.Shinde, of Bajaj Finserv stated that none of the regulator has ruled that HT consumer should work within 90% to 100% Contract Demand for all times. Hence, MSEDCL's proposal in this regard is to be completely rejected and continue earlier definition of billing demand.

2.26.8. Shri Ramchandra Bhogale of Chamber of Marathwada Industries and Agriculture (CMIA), Adv. Veejay Kumar Aggarwal, Shri Ajit Patil of Grasim Industries and others stated that Change in Demand definition is a classic example of MSEDCL is finding innovative ways to extract undue money from the consumers. MSEDCL has failed in appreciating that industries at large would not be able to achieve actual demand anywhere closer to 90 %. They would lie around 60 to 70 % band and the same is built in and paid for MSEDCL in current tariff. Hence, there is no need of change in billing demand definition.

2.26.9. Shri. Hemant A. Kapadia a Consumer Representative states that it is common practice in trade or business to provide heavy discounts and incentives to bulk users/purchasers and prompt payers. MSEDCL have surplus power and is able to flat curve during peak hours, MSEDCL proposal of increasing charges by Rs. 0.40 paisa may be rejected. Request the Commission not to change the definition of billing demand and to keep the upper and lower limit of load factor incentives as per previous MYT order.

2.26.10. Shri Mayur Bangdiya of Prabhatinagar Sustainable Energy Private Limited has requested MSEDCL and Commission to publish example of billing calculations for all possible scenarios for clarity on the same to consumers.

2.26.11. Mahindra Sanyo, Alloy Steel Producers Association of India (ASPAI) stated MSEDCL has proposed to change the definition of Billing demand by changing 3 conditions that highest of i) actual demand ii) 75% of max billing demand iii) 50% of CD shall be modified to highest of i) Actual MD recorded or ii) 90% of the CD. It can be observed that most of states still have prescribed the condition of 75% to 80%. Hence, MSEDCL's proposal shall be rejected and existing provision shall be considered.

2.26.12. J T Gahatra of Mukand Infinite Resolve stated that though they have to maintain high contract demand, their establishment ends up to 50% to 70% of contract demand. Also stated that though there is loss on load factor due to process limitation, they have to maintain high contract demand. Enhancing it from 50% to 90% will increase fixed cost enormously. Demand charges are to recover the fix expenditure such as power purchase etc. and there is no extra facility proposed also MSEDCL is purchasing power without demand cost. Hence, requested the Commission to disapprove the proposal.

2.26.13. Shri Manish Singh of Indian Wind Energy Association stated that several industries are working in between Contract Demand of 50 to 60% and this procedure of revising

CD should be user friendly so that consumer can change his CD as per his requirement. InWEA also requested the Commission that if this proposal of revision in CD will be accorded then additional surcharge should be waived off.

***MSEDCL's Reply***

2.26.14. MSEDCL has submitted that the definition of the billing demand in MSEDCL is much lower than that in some of the states, which is shown in the following table:

***Table 2-7: Comparison of billing demand***

| | MSEDCL | TN | MP | Gujarat | AP | Karnataka (BESCOM) | Chhattisgarh |
|---|---|---|---|---|---|---|---|
| **HT Category** | | | | | | | |
| Highest of | Actual Demand | Actual Demand | Actual Demand | Actual Demand | Actual Demand | Actual Demand | Actual Demand |
| | 75% of max billing demand during last 11 month | 90% of Contract Demand | 90% of Contract Demand | 85% of Contract Demand | 80% of Contract Demand | 75% of Contract Demand | 75% of Contract Demand |
| | 50% of CD | | | 100 kVA | | | 60 kVA |
| **LT Category** | | | | | | | |
| Highest of | 65% of Actual Maximum Demand | Contracted Demand | Actual Maximum Demand | Actual Maximum Demand | Actual Demand | Maximum Demand Recorded | Actual Maximum Demand |
| | 40 % of CD | | 90% of CD | 85% of CD | Contract Demand | Sanctioned Load | 75% of CD |
| | | | | 15 kW | | | 15 kW |

2.26.15. MSEDCL has submitted that its proposal for change in the definition of billing demand is in line with the provisions already applicable in many of the states. MSEDCL also submits that some of the consumers are taking undue advantage of the present provisions of the billing demand in order to take maximum benefit of the Load Factor incentive and also repeatedly exceeding the contract demand in the night hours. The burden of such under recovery is getting passed on to the other common consumers increasing their tariff.

***Commission's Analysis & Rulings***

2.26.16. The Commission observes that several consumers have raised objections to change in the definition of the billing demand during the public hearing process and also through written objections. The dual impact of revision in the Fixed/Demand Charges along with revision in the definition of Billing Demand would have significant tariff impact/shock for the consumers. Besides, the concern raised by the Utility regarding mis-use or selective use of the billing demand to claim LF incentive also need to be addressed.

2.26.17. Accordingly, the Commission has revised the eligibility conditions for applicability LF incentive, which would hopefully address the concerns raised by MSEDCL. Hence, the Commission has not accepted MSEDCL's proposal for revision in definition of Billing Demand but has put restriction on the eligibility of LF incentive; in case Billing Demand exceeds Contract Demand in any of the time block duration through the day.

2.26.18. This issue of revision in Billing Demand and the Commission's views in the matter has been further elaborated under Chapter 9 of this Order.

## 2.27. Standard of performance and Efficiency in Administration

***Objections/Suggestions***

2.27.1. Shri Viraj Wade and others stated that as per the Electricity Act 2003, "Competition, Efficiency, Electricity at affordable rates to all on that basis and protection of consumer's interest" are the principles binding on MSEDCL and GoM also. Thus, GoM should issue directions to MSEDCL to act accordingly.

2.27.2. Shri. Arun Waghmare stated that in 2010 industrial sale was 25000 lakh unit, except for Mumbai and suburbs; MSEDCL has monopoly in rest of Maharashtra. Hence, if at least 5% increase in sales every year is considered, so as on date the sales should have increased 40% i.e. 35000 lakh unit (approx. sale) but it is not the present case. As on date the sale is only 23000 lakhs unit per year, with a decrease of 12000 lakh unit sales. By the end of March 2017 it had 20000 MW extra power, having extra power and selling less power shows the inefficiency of MSEDCL. There has been no maintenance of MSEDCL for available infrastructure (electricity poles, wires and machinery) from past 30 years and for the same Rs 7300 crore will be required; which will be soon implemented. This capital costs will have to be ultimately borne by the consumers

2.27.3. M/s. Net Mech Founders Pvt. Ltd. stated that MSEDCL should make up the incurred loss through increase in efficiency and reduction in losses and not by increasing Tariff. Shri Balwant Kulkarni and Shri Sanjay K rathi stated for proper checking of the generation and transmission losses, the Commission should appoint a proper technical and administrative person who will take strict decisions.

2.27.4. Shri Loknayak Jaiprakash Narayan, Shri Shrikant Anadrao Jagtap and several others has requested to minimize generation and transmission losses as well as reduce electricity theft. MSEDCL has high maintenance cost and there are frequent transformer breakdown as well as huge operation cost for 400 kV, 220kV and 132 kV substations. MSEDCL hence should reduce its expenses without increasing the tariff

2.27.5. Adv. Anil Chavan stated that the Commission has permitted losses of 22000 to 25000 Million units, whereas MSEDCL has exceeded the losses by Rs 4000 to 6000 Crores. The additional losses are pushed on shoulders of consumers. Thus, it is requested to minimize the budgetary differences between MSEDCL and the Commission, including the write-off amounts.

***MSEDCL's Reply***

2.27.6. Regarding Consumer services MSEDCL has submitted that it has drastically improved its services in last two years. MSEDCL has developed Mahavitaran Mobile application for Consumers that offers various facilities to consumers including bill payment and complaint registration. MSEDCL has been putting more emphasis on strengthening its IT System for improving its services.

2.27.7. To address the issues of HT Consumers and timely redressal of them, MSEDCL has started a novel HT-Helpdesk at Corporate Office.

2.27.8. In order to bring transparency in consumer services, MSEDCL has started facility of SMS alerts. SMS alerts are provided for informing meter reading and consumption, bill information, status of new connection etc. Till June 2018 more than 2 Crore consumers have registered their mobile numbers with MSEDCL for availing SMS facility. MSEDCL is striving hard to improve its services further.

2.27.9. On issues related to SoP boards at MSEDCL offices for consumer awareness MSEDCL has submitted that Clause 9.4 of the MERC (Standards of Performance of Distribution Licensees, Period for Giving Supply and Determination of Compensation) Regulations, 2014 provides for making the hard copy of SoP Regulations available to the consumers upon request, subject to payment of reasonable reproduction charges. Accordingly, all the MSEDCL offices have been instructed to make the same available to the consumer on request and after payment of the reasonable charges.

2.27.10. For claims on Engineers' only working for recovery not on services, MSEDCL has submitted that engineer(s) and other staff work on all the issues related to services as well as recovery of arrears as both are equally important. MSEDCL has introduced various technology solutions for its employees which helps them in carrying out the service related issues effectively.

2.27.11. **Reliability Indices are not updated after March 2016:** MSEDCL stated it has already updated Reliability Indices up to March 2018 and will continue to update information.

2.27.12. MSEDCL stated that while releasing connections it is following standard practice as per prevailing rules and regulations. MSEDCL also states that it is providing adequate advanced protections to all feeders emanating from MSEDCL's substations.

2.27.13. MSEDCL stated that it follows the conditions stipulated in the MERC (Standards of Performance of Distribution Licensees, Period for Giving Supply and Determination of Compensation) Regulations, 2014 and tariff applicability as per the approved Tariff Order by the Commission. The consumer in his above referred email has not provided the details of any specific case wherein SoP has not been followed by MSEDCL and hence no specific reply can be given

2.27.14. MSEDCL has introduced Mobile App through which consumer can register and track complaints. MSEDCL requests all its consumers to use the mobile app through which improved consumer services can be provided.

***Commission's Analysis & Rulings***

2.27.15. The Commission observes that adherence to the SoP Regulations by Distribution Licensees and compliance monitoring thereof is crucial. The Commission has been dealing with several cases in which CGRFs have given directions, which are compiled by MSEDCL.

2.27.16. With regards to availability of updated Reliability Indices, the Commission in its previous MYT Order, had directed as follows:

*"…The Commission hereby directs MSEDCL to update the performance indices on a monthly basis on its website and also submit quarterly report to the Commission in accordance with Regulation 10.3 of the MERC (Standard of Performance of Distribution Licensees, period for giving supply and determination of compensation) Regulations, 2014."*

2.27.17. The compliance of this directive has been analysed in Chapter 7 of this Order. However, specific instances of non-compliance or delay in compliance cannot be addressed in the present proceedings.

2.27.18. In this context, MSEDCL has mentioned during the Public Hearings the mobile based application launched by it which enables consumers to access certain services. As per MSEDCL, amongst various other functionalities available on the mobile app, there is also a provision to register and track power failures.

2.27.19. MSEDCL may also use the electricity bills as well as the mobile application as important communication/outreach tools for enhancing consumer awareness.

2.27.20. The Commission is of the view that number of consumers urged the Commission for removal of electric poles standing in the middle of the road. Same have crept in due to road widening etc. reasons. Vehicular traffic is also increasing every day. Such poles invite fatal accidents. MSEDCL should develop an implementation scheme for affected areas to address this issue, as necessary. As regards the recovery of such costs, the Commission opines that as the consumers in the identified areas are direct beneficiaries of this capital expenditure and therefore the cost incurred cannot be generalised by including it in the ARR of MSEDCL and needs to be recovered from the identified consumers. Similar treatment has been given in the past in response to MSEDCL's proposal for shifting of poles in its ARR Petition in Case No. 19 of 2012 Order dated 16 August 2012, wherein the Commission has allowed MSEDCL to recover additional charge of 9 paisa/unit of consumption of the consumers in Nagpur areas for 3 years period.

## 2.28. Power supply quality, reliability standards and number of interruptions

***Objections/Suggestions***

2.28.1. Shri Dharmesh Parar and Shri Samir Sane of Laghu Udyog Bharti Opposed increase in tariff of Ag, Residential and Industrial consumers. resulting due to Electricity theft, corruption, carelessness high distribution loss. Would not tolerate such wrong practices.

2.28.2. Shri Pratap Ganpatrao Hogade of MVGS and M/s N K Minda Group stated Rules and Regulations are to provide electricity efficiently and competitively. However, it is necessary to implement the Rule and Regulations which includes Electricity Act, Tariff Policy.

2.28.3. Shri Sharad V Kulkarni, Shri Viraj Wade and several others stated that MSEDCL has 24 x 7 availability of power, still there are power failures of @ average 2 hrs all over the State due to Transformers failures, breakdowns, overhead wires breakdowns, poles collapsing, etc. Thus, MSEDCL is losing yearly Revenue of Rs. 5200 crores and the consumer’s losses are four times or more. There is also revenue loss of State Government. To avoid these losses, it is requested that proper measures should be taken immediately and accordingly directions should be given to MSEDCL.

2.28.4. Shri Uttam Shankar Saoudane and several others stated People are still getting electricity by illegal means and accidents are still occurring despite complaints from several consumers. MSEDCL has been requested to resolve the same at the earliest.

2.28.5. Shri. Raghunath Kaparthi, M/S Balaji Electrosmelters Ltd stated that Residential and commercial consumers are using Remotes for controlling their Meters and resorting to theft

2.28.6. Adv. Sachin Godambe has requested to bring electricity under GST slab of 5 or 12 % to minimize corruption and theft accountability. It is also requested that MSEDCL should implement online complaints from all categories of consumers to increase transparency.

2.28.7. Shri. Arun Waghmare and several other consumers stated that Cash losses are beyond 17000 Crores is an alarming situation for any business. MSEDCL is not working in accordance to the mission framed by Central Government. Activities of illegally disconnecting power supply and then claiming reconnection charges is a matter of corrupt activities as stated from customers across sectors. MSEDCL is also supplying faulty meters and not obeying orders of the Commission are more complaints raised from consumer side.

2.28.8. Shri Balwant Kulkarni and others stated that across all sectors electricity theft should be stopped with adequate vigilance during night hours. Questions have also been raised upon supply of electricity to buildings without having metering facilities. This poor standard of performance should be improved.

2.28.9. Raksh Pal Abrol of Bharatiya Udhami Eva Upbhokta Sangh stated MSEDCL have not improved the Distribution system and do not have right to hike the Fixed Charges and Demand Charges as proposed. He also stated Demand Charges must be based on kW and not on kVA as Consumption is Measured by Ohm's Law under KWh.

***MSEDCL's Reply***

2.28.10. While replying to theft related issues MSEDCL stated that it is making rigorous efforts to curb theft. If the theft is detected under Section 135 of EA 2003, the FIR is lodged and assessed bill is charged at the rate of 1.5 times of regular tariff and compounding charges are levied as per the rule. Special theft drives are arranged for Flying Squad to detect theft cases. Accucheck are provided to flying squad units hence they are calibrating each & every meter at site while their visit in the consumer's premises. EDP Data Sheet, MRI, Energy audit are studied and analysis are carried out to find out the suspected consumer, who are indulging in theft of energy

2.28.11. DTC metering is done and Energy Audit is carried out to find out the Energy loss on that DTC to trace the loss pockets.

2.28.12. To contain the commercial loss and prevent theft, MSEDCL has taken various measures. At present Flying Squads and Special Squads are operational for detection of theft of power. Dedicated police stations at Kalyan, Pune Nasik, Jalna & Nagpur are operational in theft prone areas to deal with the theft of energy cases. The Government of Maharashtra has given special powers to all additional district and session Judges (except Mumbai) to run the theft cases under Electricity Act 2003. In last three years MSEDCL has conducted 2,35,290 raids in which 1,63,095 theft cases were detected and has lodged 31,880 no. of FIRs with Rs 211.48 Crores assessment amount.

***Commission's Analysis & Rulings***

2.28.13. The Commission has noted the submissions made by parties and the Commission observes that improvement in distribution losses, improvement of service quality and reliability standards are utmost important along with allowance for recovery of annual revenue requirement. Besides, it is continuous improvement process on supply/service quality standards would only justify the claim for additional capitalisation or recovery of cost through ARR process. The Commission has stipulated SOP Regulations outlined several standards for performance and service quality standards. Adherence to the SoP Regulations by Distribution Licensees and compliance monitoring thereof is crucial.

## 2.29. Audit Reports and comments of auditor

***Objections/Suggestions***

2.29.1. Shri Umesh M Malviya stated that since the incorporation, the audited financial would have gone multiple qualification / reservations / disclaimer / negative comment, but the internal audit section never bothered to improve on this area. It is stated that Internal Audit section never bothered to function in compliance with the process / guidance notes in place of ICAI. It has been requested to the Commission to issue direction to MSEDCL to make sure to strengthen internal control system and internal audit must cover all violation and action taken report must be prepared and until any of issue are settled satisfaction to internal auditor the same must remain part of the internal audit report and action taken report. It has also been stated that Substantial return computed and allowed to MSEDCL, based on the capitalized value of assets, which does not exist, but MSEDCL is not willing to conduct physical verification for fairly long time in compliance with the provisions of Companies Act. He has requested the Commission to issue direction to make sure that in auditors report qualifications are reduced for FY 2017-18 audit. It is requested to the Commission to constitute Committee consisting of professionally qualified Chartered Accountant having experience in power sector issues, consumer representative, industry representative, technical experts, officers from Accounts & Finance and technical section of MSEDCL.

2.29.2. Shri. Hemant Kunte of Kaygaon Paper Mills Limited has raised concern on idle money banked by MSEDCL without proper utilization of the same. Also, no physical verification of assets has been done by MSEDCL. It has also been notified that MSEDCL has a large army of employees but still all sort of work are outsourced by MSEDCL adding cost to its accountability only.

2.29.3. Shri Suketu Shah and Shri Vipin G Jain of Mahindra Sanyo has requested that MERC should not allow capitalisation till the time physical verification of assets has been carried out.

2.29.4. Shri. Rajkumar Bilala, of Vidarbha Chamber of Commerce & Industry stated that ORC charges collected were shown as credit balance as Consumer's contribution in balance sheet and therefore making additional provision till the utilization of aforesaid amount appears to be incorrect. Thus, it is requested that MSEDCL should explain in detail about the issue.

2.29.5. Shri. Ravi Khillani stated that Distribution franchise of the state are in profit, and raised query on possible reasons on how can MSEDCL be in a state of loss if DFs are making profits. He also requested the Commission to inspect the same by CAG Audit.

***MSEDCL's Reply***

2.29.6. On reply to issues regarding physical verification of pump sets MSEDCL submitted that the Cost associated should be given from ARR

2.29.7. For ORC Charges being recovered three times by MSEDCL they have submitted that the amount collected under ORC head from consumers is utilized for creating assets i.e. Capital Expenditure. So, it is shown as Consumer's Contribution on the liability side of Balance Sheet. It is credited to Profit & Loss in a systematic manner over the expected life of the related asset and presented within Other Operative Income to take care of depreciation. Thus, the depreciation on the asset created out of consumer's contribution is debited to Profit & Loss and the consumer's contribution is credited to Profit & Loss as Other Operating Income over the expected life of that asset. Thus, the amount collected under ORC head from consumers is not retained by MSEDCL. Hence separate provision for principle amount of ORC & interest thereon is to be made if the same has to be refunded to the consumers and it has to be added in ARR

2.29.8. MSEDCL submitted that the overall Energy Audit is carried out by the Commission are due validation of the data

2.29.9. Regarding Reconciliation of Accounts and IT MSEDCL submitted that the difference in the books of accounts & IT database will be reconciled shortly. MSEDCL further submits that in case of Operative and Non-Operative accounts with nationalized banks reconciliation is done by almost all the accounting units. However, the items under reconciliation are pending for proper treatment in books of accounts due to lack of information and non-availability of old data. Suitable instructions have been issued to the Field offices to carry out proper accounting of items. The pending reconciliation items will be cleared shortly. MSEDCL has appointed an independent audit firm for IFC reporting in FY 2017-18. MSEDCL submits that the accounting standards are as per the Companies Act.

2.29.10. MSEDCL submitted that the Accounts are prepared on accrual basis. The outstanding liabilities / expenses are provided for on the basis of available information and to the best of estimates. With the introduction of SAP system there is rare possibility of expenses being booked on Cash basis except of petty nature.

***Commission's Analysis & Rulings***

2.29.11. The Commission undertakes the truing up of expenditure and revenue for every financial year based on the Audited Accounts duly certified by the Statutory Auditors. The Commission undertakes prudence check of all the expenditure and revenue submitted by MSEDCL along with the Annual Audited Accounts.

# 3. TRUE-UP OF FY 2015-16

## 3.1. Background

3.1.1. MSEDCL has sought Truing-up of the ARR for FY 2015-16 considering actual expenditure and revenue as per the Audited Accounts and in accordance with the MYT Regulations, 2011. It has submitted reasons for differences between the actual expenses for FY 2015-16 as compared to those approved in the MYT Order.

3.1.2. The analysis underlying the Commission's approval for true up of FY2015-16 is set out in the following Sections.

## 3.2. Sales in FY 2015-16

***MSEDCL's Submission***

3.2.1. MSEDCL has submitted the actual category-wise sales in FY 2015-16. Total sales excluding sales of all DFs amounted to 87,903 MU, while the corresponding sales level approved in the previous MYT Order was 84,502 MU. Category-wise actual sales for FY 2015-16 for MSEDCL excluding the DF areas are summarised in the following Table.

***Table 3-1*: Category-wise Sales for FY 2014-15 (excluding DF areas), as submitted by MSEDCL (MU)**

| Category | MYT Order | Actual | Deviation |
|---|---|---|---|
| Residential | 17,972 | 17,985 | 13 |
| Commercial | 6,196 | 6,197 | 1 |
| HT-Industries | 22,720 | 22,720 | - |
| LT-Industries | 6,260 | 6,260 | - |
| PWW | 2,073 | 2,073 | - |
| Street Light | 1,614 | 1,614 | - |
| Agriculture | 25,097 | 28,390 | 3,293 |
| Public Services | 1,174 | 1,174 | - |
| Railways | 983 | 983 | - |
| Others | 414 | 507 | 93 |
| **Total** | **84,502** | **87,903** | **3,401** |

3.2.2. MSEDCL submitted that except for sales reported for LT agriculture, the actual sales for all other categories in FY 2015-16 are as approved by Commission in its previous MYT Order. MSEDCL has further submitted that at the time of MYT Petition, it has shown the LT Prepaid sales separately under "others", whereas now it has considered in the respective category. Therefore, there is a minor deviation of 13 MUs and 1 MU in Residential and Commercial category respectively.

3.2.3. MSEDCL further submitted that the Ag. Fact finding Committee is formed by the MSEB Holding Company Limited (MSEBHCL). The Committee submitted its report to MSEBHCL on 21 July 2017. MSEDCL reverted with comments/ suggestions to MSEBHCL. As highlighted by MSEDCL, the report since then has been in the custody of MSEBHCL for further decision. MSEDCL has further submitted that on finalisation of the report, MSEDCL would take necessary action as per the directions of MSEBHCL and the same would be submitted to the Commission.

3.2.4. MSEDCL has proposed an alternate methodology based on authenticated data for determination of agricultural sales in the present MTR Petition. MSEDCL has submitted that the input of parameters for the alternate methodology of Ag sales estimation should be reliable, authenticated and sourced from third party.

3.2.5. Accordingly, MSEDCL has carried out a statistical study carried out on Ag consumption based on EHV input to ascertain the agricultural sales for the period and submitted the key findings to MERC vide letter no. SE/TRC/MTR3B/No.11378 dated 21 May, 2018. The parameter 'EHV input' was chosen for the purpose of analysis since the data pertaining to this parameter is sourced directly from the incoming EHV feeder of MSETCL with least possibility of manual intervention.

3.2.6. MSEDCL has also submitted another statistical study carried out on AG consumption based on parameters such as rainfall, cropping pattern and agriculture/ horticulture production sourced from different independent credible agencies. In the study report, MSEDCL has claimed that the study for its AG sales during FY 2014-15 and FY 2015-16 proved to be statistically in line with all the significant variables. MSEDCL has submitted this study report as part of the Present Petition.

3.2.7. In this context, MSEDCL requested the Commission to allow claimed AG sales from the FY 2014-15. MSEDCL has also requested the Commission to allow it to recover financial impact due to revision in AG Index and revision in AG sales thereof.

***Commission's Analysis and Rulings***

3.2.8. The Commission has reviewed the actual sales reported by MSEDCL in its Petition vis-à-vis sales as per its Audited Annual Accounts for FY 2015-16. The Commission notes that while approving sales for FY 2015-16 on provisional basis under the MYT Order, the FY 2015-16 was already over and the actual sales as submitted by MSEDCL was considered except for Ag sales, which was computed based on methodology linked to derived Ag Index for FY 2014-15. The detailed methodology and principle adopted for such revision of Ag sales was elaborated in the MYT Order.

3.2.9. **AG Sales**: The Commission had adopted the methodology to ascertain Circle-wise Ag Index using Feeder level data (feeder input, reported consumption, billed units, connected load etc.,) of AG-Separated and AG-SDT feeders with predominant agriculture consumption. The Commission had adopted the said methodology pending availability of study report carried out by the Agriculture Consumption Committee, constituted by MSEBHCL for looking into the billing methodology of agricultural pumps and to oversee necessary field survey associated. The relevant extract of the ruling of the Commission in the MYT Order is reproduced as follows:

*"*

*…While the Commission recognises that the AG Index based on the existing methodology followed by MSEDCL needs to be revisited, validation of the data and this methodology, and the anomalies and limitations of the existing processes for assessment of AG Index would emerge from the Committee's Report.*

*However, awaiting the findings of the Committee would lead to delay in the recognition of a more realistic present level of Distribution Loss and consequently defer the actions required to reduce it. Therefore, the Commission has decided to adopt this methodology based on Feeder-based Energy accounting of AG separated Feeders and AG separated Feeders with SDT to determine the Circle-wise AG Index, as explained in the preceding paragraphs."*

3.2.10. Although AG sales figures were assessed based on the AG Index methodology in the past Order, the same was an interim arrangement pending finalization of the AG Consumption Fact Finding Committee Report. The relevant extract of the MYT Order is reproduced below.

*"The AG Sales arrived from the Circle-wise AG Index norm methodology as above is subject to the findings of the Report of the Agricultural Consumption Committee assisted by IIT Mumbai. The Commission would undertake a detailed review of the methodology of determination of AG Sales after the Report is finalized. However, until the findings of the study become available, the methodology adopted in this*

*Order based on Feeder-based energy accounting shall form the basis for determination of the AG Index and assessment of Agriculture consumption."*

3.2.11. The Commission notes that the AG Consumption Committee report is yet to be submitted to the Commission and in such a situation, the Commission will have to decide on the approach to be followed for approval of AG sales in the MTR Order.

3.2.12. The Commission further notes that in the present MTR Petition, MSEDCL has proposed two methodologies for corroborating their claim for assessment of agricultural consumption, in the absence of metered consumption. Besides, MSEDCL has initiated several steps to online monitor the feeder-level consumption along with several other energy parameters through AMR facilities.

3.2.13. In the EHV input sales report, MSEDCL has proposed an alternate methodology for estimation of Ag sales based on the parameters which are reliable, authenticated and sourced from an independent third party. Accordingly, MSEDCL has justified agricultural sales in comparison with the EHV input at MSEDCL substations. In the report, MSEDCL has drawn the conclusion that the decrease in rainfall in FY 14-15 and FY 15-16 as compared to their previous years has resulted in rise of groundwater requirement, which led to an increase in the EHV input. The same picture is evident in the figures of AG sales too.

3.2.14. Besides, in the report annexed as Annexure 5 to the Petition, MSEDCL has drawn correlation between the crop production and rainfall. MSEDCL has concluded that in FY 16-17, there was good rainfall and hence there was rise in crop production and horticulture export. MSEDCL has reasoned the same as the factor for rise in AG sales in FY 2016-17.

3.2.15. The Commission expresses its displeasure with MSEDCL proposing a new methodology in every new filing. Not only the approach is inconsistent but also no concrete steps are taken by MSEDCL to address the main concerns about regarding assessment of the Agriculture sales.

3.2.16. The method suggested by MSEDCL in this petition also appears to be based on the secondary data and at the most can be considered as a corroborative justification. Commission feels the Agriculture consumption needs to be worked out on correct primary data.

3.2.17. The Commission is also unhappy about non-submission of the report of the AG Consumption Committee which as per the committed position in their MYT petition. The Commission expected a positive approach from MSEDCL to submit the report along with their comments on the same. The Commission directs MSEDCL to take up the matter with MSEBHCL and to submit the report alongwith its comments at the earliest.

3.2.18. Further, the Commission also notes various other initiatives being taken by MSEDCL such as implementation of Substation Monitoring System (SUMS) on a Pilot Basis to collect more consistent, reliable and accurate data without human intervention. The details of the pilot project as how it would benefit Ag sales estimation in the long run is presented in brief below.

- Sub-station Monitoring System (SUMS) is a low cost and indigenous project which helps monitoring of 33/11 kV substation in effective way. In this project the substation equipment such as circuit breaker, transformer, feeder and DC battery system etc. are monitored for various electrical and mechanical parameters

- Some of the salient features include monitoring of feeder electrical parameters such as voltage, current, energy, frequency and facilitation of energy accounting and interruption analysis

- Monitoring of vital parameters through web browser/ mobile phone

3.2.19. The data obtained from SUMS can be used for carrying out various analytics, which will be helpful in taking decisions in respect of operational, strategic and planning of system. In view of the above, MSEDCL has proposed to implement SUMS project in rest of Maharashtra on all distribution substations and switching substations in future, which will further bring in more transparency in data collection and help to ascertain the AG sales more accurate and reliable manner.

3.2.20. Thus, the Commission notes the initiatives and efforts taken by MSEDCL in this regard, however, it may address the concerns/difficulties for measurement and assessment for future years once such feeder/distribution station /switching station level database is available over the period. It would still not address the limitations to deal with the past/historical period for assessment of AG Index and estimation of un-metered AG consumption thereof for past years under consideration for True-up.

3.2.21. Further, as regards the approach proposed by MSEDCL in the present MTR Petition, the Commission observes that through both approaches the MSDECL seeks to establish corroborative evidence through statistical tools/techniques to support its claim for increase in year-to-year AG consumption and hence increase in AG index thereof by undertaking year-to-year variance analysis in the consumption pattern over the different yearly periods from FY 13-14 to FY 16-17. The Commission observes that positive correlation established through both the methods, particularly EHV Input analysis, confirms the case for increase in year-to-year consumption but degree or extent of such increase cannot be established merely relying on such secondary data. Besides, the Commission notes the concerns raised by some of the objectors for adoption of different methodology than that considered at the time of MYT Order for ascertaining the AG Index and assessment of AG consumption thereof as highlighted in the following paragraphs:

- Some of the issues highlighted by Prayas (an authorized institutional consumer representative) is listed as below:

**Comments on MSEDCL Study based on EHV substation data:**

- The study considers EHV input and estimated agriculture sales. Considering that circle level agricultural sales are estimated based on input energy, it is expected that there would be a strong correlation between the EHV input data and the estimated agriculture consumption. Further, agriculture feeder is itself defined based on estimated agriculture consumption.
- Considering this, the correlation between the two does not provide any new information or insight regarding the actual consumption pattern at a given circle.
- Considering the nature of the agriculture sales estimation, the EHV input data needs to be analysed in a detailed and disaggregated manner. For this purpose, consumer category-wise consumption profiles of all the consumers linked to a given EHV feeder would need to be analysed. Further, such disaggregated data should then be correlated with other factors such as, agro climatic zones, cropping patterns, irrigation infrastructure, groundwater levels, etc. This has not been done in the MSEDCL study.
- MSEDCL analysis is based on half yearly data and hence seasonal variations may not be captured adequately.

**Comments on MSEDCL AG sales estimation based on rainfall and agricultural production**

- The analysis presented by MSEDCL claims two major findings: a) there is significant correlation between Rabi crop and agricultural sales, and b) rainfall has negative correlation with agricultural sales
- There is no analysis or comparison of disaggregated regional data regarding rainfall, cropping pattern and agricultural sales.
- If MSEDCL claims for the steep increase in agriculture sales are to be believed, then the same should reflect in corresponding changes in agricultural GDP, especially the GDP of irrigated crops. However, the study has not made any attempt to correlate these aspects.
- Further, Prayas has highlighted that in the proceedings related to Case No. 48 of 2016, significant discrepancies were highlighted in the agricultural sales reported by MSEDCL for its various circles.

3.2.22. Considering the various limitations listed above, the Commission opines that it may not be proper to deviate from the methodology adopted under MYT Order completely but also should recognise the insights provided by such correlation studies relying on secondary independent data sources and use of statistical techniques based on the studies submitted by MSEDCL. It may not be adequate to draw inference to ascertain exact value of AG index but sufficient to consider revision in AG Index rather than completely ignoring the same, as more recent data and information is available. The Commission observes that it is imperative to establish a credible and robust methodology for re-assessment of AG Index for ascertaining the Agricultural sales for relevant yearly periods.

3.2.23. Under its MYT Order (Case 48 of 2016), the Commission had highlighted the need for Circle-wise /Feeder based AG Index assessment methodology, data requirement for continued application of such methodology and also noted the limitations of such approach in the absence of Report of AG Consumption Committee. Relevant extract of the MYT Order is as under:

> "*With the present data constraints, there are limitations in this approach of Feeder based assessment of AG Index determination as well. For ascertaining the AG Index from Feeder-based measurement, it is necessary to have information about the input energy to the Feeder, details of the Feeder configuration, proper indexation of DTCs/consumers, assessment of Technical Loss, validated*

*information about Connected Load (HP) for each Feeder, and regular updating of addition of consumers and Connected Load on each Feeder.*
*Availability of monthly data for Feeder-wise energy input is critical in this approach. MSEDCL should ensure that Feeder-based metering with Automated Metering Reading (AMR) facilities, at least for AG separated and SDT Feeders, is operationalised within the next 18 months. The monthly data should be published on a quarterly basis on its website to ensure transparency and enable wider analysis. Instead of waiting for complete coverage, the Feeder details should be provided as and when a Feeder is metered in this manner. The data should cover Feeder-wise Connected Load (metered/un-metered), Feeder-level energy input, billed energy units, and number of interruptions and outage hours."*

3.2.24. However, under its MTR Petition, MSEDCL has provided Circle-wise/Feeder level AG data (metered/un-metered connected load, metered/un-metered reported consumption etc.), however, it has expressed difficulty in providing Circle-wise/Feeder level Feeder Input data, due to technical constraints and limitations highlighted in its submissions.

3.2.25. In the foregoing, for the purpose of the approval of Ag sales for FY 2015-16 and subsequent years, the Commission has carried out a similar analysis as that was carried out in the MYT Order. The same is elaborated in the following paragraphs.

3.2.26. The Commission sought the following data from MSEDCL for further analysis of sales reported against agriculture consumption for FY 2015-16, FY 2016-17 and FY 2017-18:

- Circle-wise consumption recorded on separated AG Feeders
- Circle-wise consumption recorded on Feeders with Special Design Transformer(SDT)
- Circle-wise consumption recorded on Feeders in Single Phasing Scheme
- Circle-wise consumption recorded on other Feeders with AG consumers
- Circle-wise details of AG sales-Billed and Assessed.

3.2.27. Further, in order to verify the AG sales submitted by MSEDCL, the Commission has analysed the Circle wise (metered and unmetered) data submitted by MSEDCL in terms of number of AG consumers, Connected Load, assessment of AG index, Feeder level energy input and AG sales for FY 2015-16 to FY 2017-18.

3.2.28. However, MSEDCL in the report (Annexure 5), has submitted that the basis of the feeder wise data reported by MSEDCL is not correct method due to various technical issues such as the correctness and working status of CT/PT has to be ensured and in absence of healthy CT/PT and its connection, the feeder meter many a time shows wrong reading. Further, the Commission has observed that there is significant variation between the metered and unmetered indices within the same circle. Further, the metered sales data reported by MSEDCL is not reliable in case of every circle.

3.2.29. Upon scrutiny, it is observed that there is significant variation in Circle-wise AG Index for metered and unmetered over the yearly periods. Hence, in the absence of reliable feeder level input data, the Commission has adopted an alternative approach for assessing the Circle-wise AG Index for metered and unmetered connections and assessment of AG sales thereof for the respective years. The Commission in the current methodology has chosen circle-wise indices derived as follows:

i. In case metered Ag index is less than unmetered Ag index in a particular circle, the metered Ag index has been considered for that circle.

ii. In case metered Ag index is more than unmetered Ag index in a particular circle, unmetered Ag index has been considered for that circle.

3.2.30. The Circle wise AG indices arrived at as per the methodology used in MYT Order were multiplied by the corresponding connected load to derive the circle wise AG sales. The Commission observes that the Connected Load data would change through-out the year due to additions of new connections or revision in mapping of connected load at feeder, as feeder level consumer mapping/indexing is under progress. Average of quarterly/monthly connected load data would be more appropriate, however, even if such Connected Load data is considered, the index so derived would be used to determine AG sales for the average connected load and not for particular period.

3.2.31. Thus, without the feeder level input data from MSEDCL, the Commission has applied the same methodology to ascertain the agriculture sales. The Circle wise AG indices arrived at as per the methodology were multiplied by the corresponding connected load to derive the circle wise AG sales.

3.2.32. In the previous MYT order, the Commission had disallowed 2,414 MUs of AG sales in FY 2014-15 and 3,400 MUs of AG sales in FY 2015-16. In the MTR Petition, MSEDCL has requested the Commission to approve the AG sales for FY 2014-15 and FY 2015-16 without any disallowances. In the review order Case No. 176 of 2016, the Commission had decided to revisit the disallowances in the MTR Petition on the basis of statement by MSEDCL that the Committee report is expected by March, 2017.

However, the Commission notes that MSEDCL has not yet submitted the report as elaborated earlier in this section. Hence, the Commission now shall conduct an independent study through an agency for assessment of Ag sales, which shall form the basis of establishment of Ag sales from FY 2014-15 and in subsequent years. The Commission shall appoint an independent 3$^{rd}$ party agency to undertake such study. Further the Commission shall define a detail ToR in due course of time and would be published on website.:

3.2.33. For the purpose of present MTR Order, the Commission maintains that the methodology for Agricultural sales estimation be applied and provisional sales is estimated for from FY 2015-16 to FY 2019-20, subject to revisions made on account of more recent data available and methodology outlined under earlier paragraphs. Further it is highlighted that for the approval of Ag sales for 2015-16 to FY 2017-18, the derived AG index for respective years have been used. Further, for the purpose of approval of projection of Ag sales, for FY 2018-19 and FY 2019-20, the AG Index applied for truing up of FY 2015-16 has been considered.

**Table 3-2: Summary of Agriculture Sales (as per MSEDCL MTR Petition) for FY 2015-16 to FY 2019-20**

| Particulars | FY 2015-16 (MSEDCL submission) | FY 2016-17 (MSEDCL submission) | FY 2017-18 (MSEDCL submission) | FY 2018-19 (MSEDCL submission) | FY 2019-20 (MSEDCL submission) |
|---|---|---|---|---|---|
| **No. of Consumers (in lakh)** | | | | | |
| Un-Metered | 15.91 | 15.41 | 15.11 | 14.64 | 14.18 |
| Metered | 23.75 | 25.40 | 25.95 | 27.93 | 30.07 |
| **Total** | **39.66** | **40.81** | **41.06** | **42.57** | **44.25** |
| **Load (in lakh HP)** | | | | | |
| Un-Metered | 83.42 | 78.32 | 75.44 | 73.48 | 71.58 |
| Metered | 116.52 | 127.08 | 131.49 | 145.63 | 161.20 |
| **Total** | **199.94** | **205.40** | **206.93** | **219.12** | **232.78** |
| **Energy Sales (MU)** | | | | | |
| Un-Metered | 12,003 | 11,977 | 11,090 | 10,469 | 9,848 |
| Metered | 15,395 | 15,431 | 18,445 | 20,173 | 22,005 |
| **Total** | **27,399** | **27,408** | **29,536** | **30,642** | **31,853** |
| **AG Index (kWh/HP/Annum)** | | | | | |
| Un-Metered | 1,439 | 1,529 | 1,470 | 1,425 | 1,376 |
| Metered | 1,321 | 1,214 | 1,403 | 1,385 | 1,365 |
| **Total** | **1,370** | **1,334** | **1,427** | **1,398** | **1,368** |

**Table 3-3: Summary of Agriculture Sales (Approved for MTR) for FY 2015-16 to FY 2019-20**

| Particulars | FY 2015-16 MTR Order | FY 2016-17 MTR Order | FY 2017-18 MTR Order | FY 2018-19 MTR Order | FY 2019-20 MTR Order |
|---|---|---|---|---|---|
| **No. of Consumers (in lakh)** | | | | | |
| Un-Metered | 15.91 | 15.41 | 15.11 | 14.64 | 14.18 |
| Metered | 23.50 | 24.65 | 25.95 | 27.93 | 30.07 |
| **Total** | **39.41** | **40.06** | **41.06** | **42.57** | 44.25 |

| Particulars | FY 2015-16 MTR Order | FY 2016-17 MTR Order | FY 2017-18 MTR Order | FY 2018-19 MTR Order | FY 2019-20 MTR Order |
|---|---|---|---|---|---|
| **Load (in lakh HP)** | | | | 1.04 | |
| Un-Metered | 83.42 | 78.27 | 75.37 | 73.48 | 71.58 |
| Metered | 116.96 | 127.19 | 135.45 | 145.63 | 161.20 |
| **Total** | **200.38** | **205.46** | **210.82** | **219.12** | 232.78 |
| **Energy Sales (MU)** | | | | | |
| Un-Metered | 11,536 | 10,112 | 10,914 | 10,162 | 9,899 |
| Metered | 15,303 | 15,421 | 17,699 | 19,054 | 21,091 |
| **Total** | **26,839** | **25,533** | **28,613** | **29,216** | **30,989** |
| **AG Index (kWh/HP/Annum)** | | | | | |
| Un-Metered | 1,383 | 1,383 | 1,448 | 1,383 | 1,383 |
| Metered | 1,308 | 1,308 | 1,307 | 1,308 | 1,308 |
| **Total** | **1,339** | **1,243** | **1,357** | **1,333** | **1,331** |

3.2.34. The Commission would undertake a detailed review of the methodology of determination of AG Sales based on the Study proposed to be carried out by the Commission through a third party agency appointed. The methodology finalised through this study shall form the basis for approval of AG sales during truing up exercise to be carried out at the end of the 3rd Control Period and for years FY 2014-15, to FY 2016-17. However, it is clarified that as the true-up of ARR for these years is already over (except for the assessment of AG sales and corresponding revision in the distribution loss thereof (if any)), the revision of revenue gap (over-recovery or under-recovery) shall be undertaken only in terms of sharing of distribution loss. For this purpose of sharing of gains/losses same methodology and principles as adopted through this MTR Order for respective years shall be followed for such adjustment.

3.2.35. Accordingly, the total Energy sales for FY 2015-16 as submitted by MSEDCL and as approved by the Commission are summarised as follows:

**Table 3-4: Energy Sales approved for FY 2015-16 by Commission**

| Particulars | Previous MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| **Sales** | | | |
| HT Sales – MSEDCL | 29,447 | 29,447 | 29,447 |
| **LT Sales** | | | |
| LT Sales - Excluding AG Sales | 30,950 | 30,951 | 30,951 |
| LT Sales - AG Sales | 24,105 | 27,505 | 26,946 |
| **MSEDCL Sales(HT and LT)** | **84,502** | **87,903** | **87,344** |
| Energy Sales in DF Areas | 4,115 | 4,114 | 4,114 |
| HT Sales - Open Access (Conventional) | 5,928 | 5,928 | 5,928 |
| HT Sales - RE Open Access and HT Credit | 420 | 447 | 447 |
| **Total Energy Sales (including DF Areas, Open Access and Credit Sales)** | **94,965** | **98,392** | **97,833** |

## 3.3. Energy Balance for FY 2015-16

***MSEDCL's Submission***

3.3.1. For calculating energy balance of MSEDCL as a whole, the sale to the consumers within the Distribution Franchisee area has also been considered. Therefore, MSEDCL computed the total energy sale for FY 2015-16 as below:

**Table 3-5: Energy Sales for MSEDCL for FY 2015-16 as submitted by MSEDCL (MU)**

| Particulars | MYT Order | Actual |
|---|---|---|
| Energy Sales by MSEDCL for FY 2015-16 | 84,502 | 87,903 |
| Add: Category wise sales in DF area | 4,115 | 4,114 |
| Less: PD Consumers | - | -8 |
| Add: OA Sales (Conventional) | 5,928 | 5,928 |
| Add: Renewable OA | 420 | 447 |
| **Total Energy sales MSEDCL** | **94,965** | **98,384** |

3.3.2. MSEDCL submitted that it is procuring power from various Sources including MSPGCL, CGS including nuclear power plants, Traders, IPPs, CPP and Renewable Sources. It would be very difficult to differentiate which power is coming from which source at Transmission periphery. Hence, an average inter-state loss for the whole year is considered for power sourced from outside the State of Maharashtra.

3.3.3. MSEDCL also submitted that data of metered energy is available at 3 points: at bus-bar of the MSEDCL generating station, at T <> D interface i.e. at Distribution Periphery and sales at consumer end. MSEDCL further stated that in order to calculate Distribution Loss, it considered metered energy at Distribution periphery and sales at consumer end.

3.3.4. MSEDCL further submitted that the TAPS (NPCIL) and EMCO Power Plants are connected to CTU and therefore are considered as Inter-State sources.

3.3.5. MSEDCL has traded surplus power as and when available on day ahead basis through the energy exchanges. In the cases of drop in demand and during the monsoon season, surplus power was available. The surplus power was handled either by giving the zero schedules to high cost generating units or by backing down and selling through the exchanges/bilateral. Further, during the winter season, demand during day period is more than that of night period due to the agricultural load. Thus, there is the utilization of maximum available power during day hours, whereas during the night there is drastic decrease in demand due to the effect of winter season, which causes the back down of generation. As generation cannot be reduced below the technical minimum, the surplus power (after backing down) needs to be sold in order to maintain the stability of the system. MSEDCL submitted that quantum of 925.81 MUs shown under ‘Surplus Energy Traded’ is the actual energy traded by MSEDCL in FY 2015-16.

3.3.6. MSEDCL further submitted that the FBSM has been finalized by SLDC for FY 2015-16 recently and (2396 MUs) have been considered as per the bills raised by SLDC. MSEDCL further submitted that FBSM is an Inter-Utility settlement and therefore, finalization of FBSM affects the Inter-Utility quantum resulting into modification of Transmission Loss of the Intra State Distribution Licensees. Further, in view of the average weekly losses notified by WRLDC, it is appropriate to consider the same while calculating the energy balance. Therefore, MSEDCL has considered the average of transmission losses for 52 weeks provided by WRLDC as on March 30, 2016 as the Inter State Transmission Loss and the impact of FBSM in the Energy Balance.

3.3.7. MSEDCL submitted the Energy Balance considering above submissions.

**Table 3-6: Energy balance for FY 2015-16 as submitted by MSEDCL**

| Particulars | Units | FY 2015-16 (Approved) | FY 2015-16 (Actual) |
|---|---|---|---|
| **Retail Energy Sale to Consumers** | **MU** | **94,965** | **98,383** |

| Particulars | Units | FY 2015-16 (Approved) | FY 2015-16 (Actual) |
|---|---|---|---|
| Distribution Losses | % | 18.24% | 14.51% |
| Distribution Losses | MU | 21,183 | 16,693 |
| **Energy at Distribution Periphery** | **MU** | **116,148** | **115,077** |
| Energy at Distribution Periphery injected and drawn at 33 kV | MU | 458 | 449 |
| Energy at Distribution Periphery injected from 33 kV and above | MU | 115,690 | 114,628 |
| Intra-State loss | % | 3.92% | 3.12% |
| **Total Energy required at Transmission Periphery** | **MU** | **120,410** | **118,323** |
| Surplus Energy Traded | MU | 877 | 926 |
| **Total Power Purchase Quantum Handled** | **MU** | **121,287** | **119,248** |
| **Power Purchase Quantum from Intra-State sources** | **MU** | **92,481** | **85,005** |
| *MSPGCL* | MU | 43,776 | 43,852 |
| *Dodson* | MU | 96 | 96 |
| *IPPs (JSW, ADANI, RATTANINDIA)* | MU | 26,482 | 26,482 |
| *Renewable* | MU | 8,544 | 8,698 |
| *CPP* | MU | 825 | 688 |
| *Traders* | MU | 1,278 | 1,278 |
| *IBSM/FBSM* | MU | (260) | (2,396) |
| *Input for OA Consumption* | MU | 6,306 | 6,306 |
| *NPCIL (TARAPUR)* | MU | 3,929 | - |
| *EMCO* | MU | 1,504 | - |
| **Power Purchase Quantum from Inter-State Sources** | **MU** | **29,899** | **35,546** |
| *NTPC* | MU | 23,889 | 24,103 |
| *NPCIL (Incl. Tarapur)* | MU | 609 | 4,537 |
| *CGPL UMPP* | MU | 4,717 | 4,717 |
| *EMCO* | MU | - | 1,504 |
| *SSP+Pench* | MU | 684 | 684 |
| Inter-State losses | % | 3.66% | 3.66% |
| **PP Quantum from Inter-State sources at Maharashtra Periphery** | **MU** | **28,806** | **34,243** |
| **Total Energy Units Handled** | **MU** | **1,22,379** | **1,20,551** |

3.3.8. It is pertinent to note that while approving the Energy Balance for FY 2015-16 in the MYT Order dated 3rd November 2016, the Commission considered Energy at Distribution Periphery as 1,16,148 MUs instead of 1,15,077 MUs as submitted by MSEDCL. MSEDCL submitted that energy at Distribution Periphery is metered energy at sub-station end, which has been verified with the final data received from MSLDC. MSEDCL had submitted the energy at Distribution Periphery based on the provisional data available at the time of the submission of the MYT Petition. Considering the inter-state transmission losses at 3.66% as per the justification given above, MSEDCL has derived Intra-State losses as power purchase, sales and energy at Distribution Periphery all are metered figures.

3.3.9. In the MYT Order dated 3rd November 2016, the Commission revised the metered figure of Energy at Distribution Periphery. This was an error apparent and hence the same was brought to the notice of the Commission in the Review Petition. In view of the above submissions, MSEDCL requested the Commission to approve the Energy Balance as submitted above.

***Commission's Analysis and Ruling***

3.3.10. The Energy Balance reported by MSEDCL and approved by the Commission for FY 2015-16 is presented in the Table above shown as part of MSEDCL's submission. The difference in the Energy Balance claimed by MSEDCL and that approved by the Commission is mainly on account of the difference in Agriculture Sales approved by the Commission vis-à-vis that claimed by MSEDCL as part of the total Energy Sales.

3.3.11. Based on the revised estimate of Agriculture Sales by the Commission, the approved sales including the DF sales, OA sale and PD consumers as available for the Energy Balance of FY 2015-16 are as shown below:

**Table 3-7: Energy Sales for Energy Balance of FY 2015-16 as approved by Commission (MU)**

| Particulars | MYT Order | MTR Petition | Approved in this Order |
|---|---|---|---|
| Energy Sales by MSEDCL for FY 2015-16 | 84,502 | 87,903 | 87,344 |
| Add: Category wise sales in DF area | 4,115 | 4,114 | 4,114 |
| Less: PD Consumers | - | -8 | -8 |
| Add: OA Sales (Conventional) | 5,928 | 5,928 | 5,928 |
| Add: Renewable OA | 420 | 447 | 447 |
| **Total Energy sales MSEDCL** | **94,965** | **98,384** | **97,825** |

3.3.12. The Commission has considered the Conventional Open Access Sales and Renewable Open Access Sales as submitted by the MSEDCL. The data has been verified from the submissions made in response to queries raised. Accordingly, the submission by MSEDCL towards Open Access Sales is found to be order.

3.3.13. MSEDCL has submitted that the information about energy injected and drawn at 33 kV is maintained at Circle offices. The Commission has considered the same.

3.3.14. The commission has considered the InSTS loss of 3.92% as approved in the MYT order in Case No. 48 of 2016, which is also the actual intra-State transmission losses as reported by SLDC for FY 2015-16.

3.3.15. MSEDCL has submitted that during the last 1-2 years due to various reasons, the RE Generators injected the renewable energy without EPA. MSEDCL was executing wind EPAs with the wind generators commissioned in the FY 2014-15 and FY 2015-16 from the date of commissioning of the projects. Hence, the energy injected into the grid by these wind generators in FY 2015-16 is 505.07 MUs. The commission has considered the energy injected into the grid for the purpose of energy balance for FY 2015-16.

3.3.16. MSEDCL was asked to submit the month-wise details of the surplus energy traded for FY 2015-16 in terms of Quantum, Average rates and mode of sell, i.e., through Exchange or Bilateral. Based on the data submitted by MSEDCL, the Commission considered 926.28 MU of surplus energy traded against the petitioned value of 925.81 MU for FY 2015-16, as the data is corrected to the decimal places.

3.3.17. MSEDCL further submits that the Energy at Distribution Periphery injected and drawn at 33 kV is renewable energy and is already a part of RE power considered in Form 2 (Power purchase expense). Hence, for the purpose of Energy Balance, the commission has deducted the RE power, in arriving at Total power quantum handled at G<>T periphery (*Sr. No.13 of Energy Balance table shown below*), as the RE component is shown separately (*Sr. No. 18 of Energy Balance table shown below*).

3.3.18. The Distribution Losses arrived at in the Energy Balance are consequent to the above changes.

**Table 3-8: Energy Balance for FY 2015-16 as approved by the Commission**

| Sr. No. | Particulars | Calculation | UoM | FY 2015-16 | | |
|---|---|---|---|---|---|---|
| | | | | MYT Order | MTR Petition | Approved in this Order |
| 1 | Total Sales including D.F | a | MU | 88,617 | 92,009 | 91,450 |
| 2 | OA Sales (Conventional) | b | MU | 5,928 | 5,928 | 5,928 |
| 3 | OA Sales (Renewables) | c | MU | 420 | 447 | 447 |

| Sr. No. | Particulars | Calculation | UoM | FY 2015-16 | | |
|---|---|---|---|---|---|---|
| | | | | MYT Order | MTR Petition | Approved in this Order |
| **4** | **Retail Energy Sale to Consumers** | **A=a+b+c** | **MU** | **94,965** | **98,384** | **97,825** |
| | | | | | | |
| **5** | **Total Power Purchase** | **B=d+e** | **MU** | **1,16,531** | **1,14,188** | **1,14,188** |
| **6** | ***Power Purchase Quantum from Intra-State sources*** | **d** | **MU** | **86,633** | **78,643** | **78,643** |
| | MSPGCL | | MU | 43,776 | 43,852 | 43,852 |
| | Dodson | | MU | 96 | 96 | 96 |
| | IPPs (JSW, ADANI, RATTANINDIA) | | MU | 26,482 | 26,482 | 26,482 |
| | Renewable | | MU | 9,002 | 8,642 | 8,642 |
| | CPP | | MU | 825 | 688 | 688 |
| | Traders | | MU | 1,278 | 1,278 | 1,278 |
| | IBSM/FBSM including provisional FBSM | | MU | -260 | -2,396 | -2,396 |
| | NPCIL (TARAPUR) | | MU | 3,929 | - | - |
| | EMCO | | MU | 1,504 | - | - |
| **7** | ***Power Purchase Quantum from Inter-State Sources*** | **e** | **MU** | **29,899** | **35,546** | **35,546** |
| | NTPC | | MU | 23,889 | 24,103 | 24,103 |
| | NPCIL | | MU | 609 | 4,537 | 4,537 |
| | CGPL UMPP | | MU | 4,717 | 4,717 | 4,717 |
| | EMCO | | MU | - | 1,504 | 1,504 |
| | SSP+Pench | | MU | 684 | 684 | 684 |
| **8** | **Inter-State losses** | **f** | **%** | **3.66%** | **3.66%** | **3.66%** |
| 9 | *Power Purchase Quantum from Inter-State sources at Maharashtra Periphery* | g=e*(1-f) | MU | 28,806 | 34,243 | 34,243 |
| **10** | **Power Quantum handled at Maharashtra Periphery** | **h=d+g** | **MU** | **1,15,438** | **1,12,886** | **1,12,886** |
| | | | | | | |
| 11 | Infirm Non-PPA Wind Power | i | MU | - | 505 | 505 |
| 12 | Input for OA Consumption | j=b/(1-6%) | MU | 6,306 | 6,306 | 6,306 |
| **13** | **Total Power Purchase Quantum Handled** | **k=h+i+j-p** | **MU** | **1,21,287** | **1,19,248** | **1,19,248** |
| | | | | | | |
| 14 | Surplus Energy Traded | l | MU | 877 | 926 | 926 |
| 15 | Total Energy required at Transmission Periphery | m=k-l | MU | 1,20,410 | 1,18,323 | 1,18,322 |

| Sr. No. | Particulars | Calculation | UoM | FY 2015-16 | | |
|---|---|---|---|---|---|---|
| | | | | MYT Order | MTR Petition | Approved in this Order |
| **16** | **Intra-State loss** | **n** | **%** | **3.92%** | **3.12%** | **3.92%** |
| 17 | Energy at Distribution Periphery injected from 33 kV and above | o=m*(1-n) | MU | 1,15,690 | 1,14,628 | 1,13,684 |
| 18 | Energy at Distribution Periphery injected and drawn at 33 kV | p | MU | 458 | 449 | 449 |
| **19** | **Energy at Distribution Periphery** | **C=o+p** | **MU** | **1,16,148** | **1,15,077** | **1,14,133** |
| | | | | | | |
| 20 | Distribution Losses | D=C-A | MU | 21,183 | 16,693 | 16,308 |
| **21** | **Distribution Losses** | **E=D/C** | **%** | **18.24%** | **14.51%** | **14.29%** |

## 3.4. Distribution Loss in FY 2015-16

***MSEDCL's Submission***

3.4.1. In MYT Order dated 3 November 2016 in Case No. 48 of 2016, the Commission had approved distribution loss of 18.24%. However, while deciding the impact of distribution loss, the Commission compared the approved loss with 13.50%. Considering the above submission regarding AG sales, MSEDCL submitted that it has also compared the actual distribution loss with 13.50% only. The actual distribution loss of MSEDCL for FY 2015-16 is 14.51%, which is 1.01% more.

**Table 3-9: Distribution Losses for FY 2015-16 as submitted by MSEDCL**

| Particulars | FY 2015-16 (Approved) | FY 2015-16 (Actual) | Deviation |
|---|---|---|---|
| Distribution Loss | 13.50% | 14.51% | 1.01% |

3.4.2. MSEDCL also submitted that the figure of actual distribution losses excluding EHV sales is 15.31% for the FY 2015-16.

3.4.3. MSEDCL stated that it has endeavoured to take Distribution Losses to the lowest possible level and it is striving for further reduction in future. However, loss reduction is a slow process and to maintain the rate with which the loss has been decreasing is a difficult task. The reduction in HT Sales and increase in LT sales has also affected the distribution losses. MSEDCL hence requested the Commission to approve the actual

Distribution Loss.

***Commission's Analysis and Ruling***

3.4.4. The Commission had stipulated the trajectory for reduction of Distribution Loss in its Business Plan Order for MSEDCL in Case No. 134 of 2012 for FY 2013-14 to FY 2015-16. As per the trajectory, the Distribution Loss level stipulated for FY 2015-16 was 13.50%. However, during the Provisional Truing-up of FY 2015-16 in Case No. 48 of 2016, based on the re-computation of the AG Index, the Commission revised the estimate of sales during FY 2015-16 and assessed the Distribution Loss as 18.24%. That formed the basis for provisional approval of the Energy Balance in the MYT Order for that year. However, MSEDCL now has submitted a Distribution Loss level of 14.51% for FY 2015-16, which is lower than the stipulated target.

3.4.5. The Commission has now approved revised Energy Sales of 97,825 MU for FY 2015-16 against the claim of 98,384 MU. Based on this, the approved Distribution Loss for FY 2015-16 is as shown in the Table below:

**Table 3-10: Distribution Loss for FY 2015-16 as approved by the Commission**

| Particulars | MYT Order | MTR Petition | Approved in this Order |
|---|---|---|---|
| Distribution Loss | 13.50% | 14.51% | 14.29% |

## 3.5. Power Purchase Expenses for FY 2015-16

***MSEDCL's Submission***

3.5.1. A comparison of source wise power purchase quantum and expenses as per the Audited Accounts for FY 2015-16 and as approved by the Commission in MYT Order dated 3rd November 2016 in Case No. 48 of 2016 is shown in the following table.

**Table 3-11: Source wise Power Purchase for FY 2015-16 as submitted by MSEDCL**

| Source | MYT Order | | MSEDCL Actual | | Deviation | |
|---|---|---|---|---|---|---|
| | Quantum (MUs) | Cost (Rs. Crs) | Quantum (MUs) | Cost (Rs. Crs) | Quantum (MUs) | Cost (Rs. Crs) |
| MSPGCL | 43,776 | 18,132 | 43,852 | 16,846 | 76 | (1,286) |
| NTPC | 23,889 | 6,651 | 24,103 | 6,835 | 214 | 184 |
| NPCIL | 4,537 | 1,181 | 4,537 | 1,198 | - | 17 |
| SSP | 565 | 116 | 566 | 116 | 0 | 0 |

| Source | MYT Order | | MSEDCL Actual | | Deviation | |
|---|---|---|---|---|---|---|
| | Quantum (MUs) | Cost (Rs. Crs) | Quantum (MUs) | Cost (Rs. Crs) | Quantum (MUs) | Cost (Rs. Crs) |
| Pench | 118 | 24 | 118 | 24 | - | - |
| Dodson | 96 | 26 | 96 | 30 | - | 5 |
| JSW | 1,805 | 515 | 1,805 | 515 | 0 | 0 |
| Mundra UMPP | 4,717 | 1,156 | 4,717 | 1,155 | - | 0 |
| Adani Power | 19,047 | 6,025 | 19,047 | 6,074 | - | 49 |
| EMCO Power | 1,504 | 488 | 1,504 | 489 | - | 1 |
| Rattan India | 5,630 | 2,329 | 5,630 | 2,404 | 0 | 75 |
| Renewable Excluding CPP | 8,544 | 4,927 | 8,642 | 5,325 | 98 | 398 |
| CPP | 825 | 168 | 688 | 136 | (137) | (32) |
| PGCIL Charges | | 1,947 | | 2,133 | - | 186 |
| Traders and FBSM | 1,019 | 350 | (1,117) | 344 | (2,136) | (5) |
| **Total Power Purchase** | **116,073** | **44,034** | **114,188** | **43,626** | **(1,885)** | **(409)** |

3.5.2. In the following paragraphs, MSEDCL submission giving the detailed reasons for variation in the power purchase cost, has been presented.

3.5.3. MSEDCL highlighted that at the time of filling of MYT Petition in Case No. 48 of 2016, it has submitted the details of power purchase up to March 2015 based on available information. Subsequently, Audited Accounts of FY 2015-16 have been finalized and the power purchase expenses for FY 2015-16 have been revised accordingly. The source wise reasons for deviation as submitted by MSEDCL have been summarized in following paragraphs.

- **MSPGCL**- Reduction in cost due to pass through of the provisional true up for FY 2013-14 amounting to Rs. 1,313 crores by MSPGCL.

- **NTPC**– Bills on account of revision of energy charges, annual adjustment to AFC (Annual Fixed cost) and SFC (Specific Fuel Cost) for March 2016 were received along with energy bills of April 2016. The overall impact of this revision was Rs. 140.20 crores.

- **NPCIL**– There is revision in bills for the month of Feb 16 & Mar 16 amounting to Rs. 2.86 Crs. on account of Tariff revision due to notification for Nuclear Liability Fund. Moreover, MSEDCL paid Rs. 25.56 Crs on account of ROE.

Further, amounts of Rs. 8.85 Crs paid towards, water cess, liability fund, WRLDC charges etc. were not considered while submitting MYT data, and hence there is difference of Rs. 17 Crs.

- **DODSON**– The bills for short fall in generation of FY 09-10 & FY 15-16, water cess arrears for Dec. 15 in respect of Dodson II amounting to Rs. 4.97 Crs. have been raised which were not considered in MYT submission.

- **Renewable**– Since the data for renewable sources needs to be collected from field offices, same was not available for the month of Feb'16 & Mar'16. While submitting the provisional data, MSEDCL considered amount around Rs. 850 Crs. with quantum of 1561 MUs for these two months. However, the actual amount is around Rs. 1246 Crs with 1667 MUs, hence there is difference of around Rs. 398 Crs.

- **PGCIL**– PGCIL raised POC -3 bill for the Qtr. Jan. 16 to Mar 16 amounting to Rs. 187.77 Crs.

- **Adani Power**– An amount of Rs. 50.34 Crs were paid to M/s. APML towards Change in law claims. This amount was not considered while submitting the MYT provisional data.

- **RattanIndia**– An amount of Rs. 74.25 Crs was paid to M/s. RIPL out of which Rs. 28.99 Crs. were paid towards zero scheduling for the month of Mar' 16 & Rs. 45.26 Crs paid towards Change in law claims for the month of Feb' 2016 & Mar' 2016. These amounts were not considered while submitting the MYT provisional data.

3.5.4. MSEDCL submitted that the above changes are beyond the reasonable control of MSEDCL but well within the regulatory provisions for consideration in true up. The Commission in its MYT Order has ruled that the approved power purchase for FY 15-16 was subject to further prudence check at the time of final truing-up. Hence, MSEDCL requested the Commission to approve the power purchase expenses as per the Audited Accounts.

***Commission's Analysis and Ruling***

3.5.5. The Commission asked for the Reconciliation Statement on power purchase expenses between 'Revenue from Sale of power to MSEDCL as per MSPGCL Audited Accounts for FY 2015-16' and 'Cost of Purchase of Power from MSPGCL as per MSEDCL Audited Accounts for FY 2015-16'. While the Audited Accounts of MSEDCL show the expense towards power purchase from MSPGCL as Rs. 16845.76 crore in its Accounts, MSPGCL had reported revenue from sale of power to MSEDCL of Rs. 18237.26 crore (a difference of Rs 1391.50 crore). MSEDCL submitted the detailed reconciliation of the difference mentioned above. Based on the above submission, the commission verifies these and found them to be in order.

3.5.6. The detailed source-wise breakup of the Power purchase expenses for MSEDCL for FY 2015-16 is given in the note 23 of Audited accounts of MSEDCL for FY 2015-16. The commission has verified the source wise power purchase expenses as submitted with the audited figures and found them in order, except for Power purchase from NTPC plants and captive power projects including over injected units by Open Access generators. Since the submissions on source-wise power purchase did not tally with the Audited Accounts for the above said plants, MSEDCL was asked for the justification of it. MSEDCL submitted that the quantum from NVVNL was inadvertently included in CPP instead of NTPC, which was corrected after the final audit. Based on the above submission, the Commission verified these and found them to be in order.

3.5.7. MSEDCL was asked for samples of Supplementary bills of NTPC and NPCIL stations for FY 2015-16. MSEDCL submitted samples of supplementary bills raised by Generator during the year. The Commission has verified the sample bills and found them to be in order.

3.5.8. MSEDCL has submitted that there has been a reduction in cost of MSPGCL stations due to pass through of the provisional true up for FY 2013-14 amounting to Rs. 1313 crore. As there was no provisional truing up of MSPGCL for FY 2013-14, the commission could not verify the claim. Hence, MSEDCL was asked to submit the pass through bills of MSPGCL stations of FY 2013-14 as claimed. Eventually, MSEDCL submitted the proof. The Commission has verified the pass through bills submitted and found them to be in order.

3.5.9. MSEDCL has submitted that Adani Power has paid Rs. 50.34 crores to M/s APML towards change in law claims and RattanIndia has paid Rs. 74.25 crores to M/s RIPL towards zero scheduling and change in law claims. The commission has verified these claims with the audited accounts and found them in order.

3.5.10. As per the RPO Regulations, 2010, each Distribution Licensee has to meet 9% of its requirement through RE sources in FY 2015-16, including 0.5% through solar sources and 8.5% through Non-solar (Other RE) sources. In addition, 0.2% of the Non-solar (Other RE) RPO obligation has to be met through Mini Hydro or Micro Hydro power projects.

3.5.11. The Commission had verified the compliance of RPO targets by MSEDCL for FY 2015-16 in its Order dated 27 March 2018 in Case No. 169 of 2016. The Commission concluded in the said Order that MSEDCL had not fulfilled its stand-alone Solar and Mini /Micro Hydro Power targets for FY 2015-16, with a shortfall of 157.95 MU and 18.08 MU, respectively. It also had a cumulative shortfall as at the end of FY 2015-16, including earlier years, of 1359.75 MU and 68.57 MU, respectively. However, MSEDCL had fulfilled its stand-alone Non-Solar RPO target for 2015-16, with a surplus of 14.49 MU, and a cumulative surplus at the end of FY 2015-16, including earlier years, of 34.155 MU. The relevant extract of the said Order is as following:

*"35. As discussed earlier, the Commission finds no justification or mitigating circumstances for MSEDCL's shortfall against its stand-alone Solar RPO Solar target, and the cumulative shortfall as at the end of FY 2015-16 has increased. In similar circumstances pertaining to the stand-alone shortfall of FY 2014-15, the Commission, in its Order in Case No. 16 of 2016, had directed MSEDCL to create a RPO Regulatory Charges Fund under Regulation 12 of the RPO regulations, 2016 (quoted at para. 2 earlier in this Order).*

*36. On similar lines, the Commission directs MSEDCL as follows with regard to the stand-alone and cumulative shortfall against its Solar RPO targets in FY 2015-16:*

*1) MSEDCL shall constitute a notional 'RPO Regulatory Charges Fund';*

*2) The Fund shall be utilised by MSEDCL to purchase Solar power and/or RECs so as to fully meet its shortfall of FY 2015-16 by the end of March, 2019, and the amounts of the Fund shall be determined by MSEDCL accordingly from time to time;*

*3) Considering the circumstances set out in this Order which have led the Commission to invoke Regulation 12, the expenditure expected for purchase* *of RECs and/or power procurement from the Fund shall not be passed through to consumers to the extent of the shortfall not met by MSEDCL by the end of FY 2018-19.*

*4) The performance of MSEDCL in this regard shall be reviewed in future RPO compliance verification proceedings and also taken into account in the relevant Tariff proceedings.*

*The Commission has not specified the amounts to be deposited in the Fund since that will depend on the power procurement and/or REC purchase mix opted for by MSEDCL, the actual rate of RECs in the market from time to time, etc. Moreover, MSEDCL need not deposit into the Fund the entire amount estimated to be required in a lumpsum at the outset, but spread it over the remainder of the year depending on its assessment of the market. The Fund is notional in that sense.”*

3.5.12. Further, as sought by the Commission, MSEDCL submitted the reconciliation of FBSM bills with the Audited Accounts, which was verified.

3.5.13. Regarding the power purchase in FY 2015-16, for verification of the Variable Charges considered for the IPPs, MSEDCL was asked to submit the reconciliation of Total Charges considered for IPPs. MSEDCL submitted the required details, and stated that the PPA rates are linked to various factors such as variation in monthly exchange rate, CERC index for inland handling of imported fuel and CERC index for inland transportation of fuel. In addition, the submitted variable charge and fixed charge was cross-verified from the MSEDCL’s FAC statement for the month of March 2016 and found them in order.

3.5.14. Accordingly, upon necessary verifications, the Commission approves the actual power purchase expenses as claimed by MSEDCL for FY 2015-16 for the purpose of truing up of FY 2015-16. The approved Power Purchase expenses are shown in the table below.

**Table 3-12: Power Purchase Expenses for FY 2015-16 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MTR Petition | Approved in this Order |
|---|---|---|---|
| Power Purchase Expenses | 44,034 | 43,626 | 43,626 |

## 3.6. Transmission Charges for FY 2015-16

***MSEDCL's Submission***

3.6.1. The Commission has approved Transmission Charges for FY 2015-16 in its InSTS Tariff Order in Case No. 123 of 2014 and 57 of 2015, and the MSLDC Charges in its Order in Case No. 178 of 2013. These have been applied for FY 2015-16. The Transmission Charges claimed by MSEDCL are as shown in the following Table:

**Table 3-13: Transmission Charges for FY 2015-16 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Transmission Charges paid to Transmission Licensee | 4,070 | 4,070 |

***Commission's Analysis and Ruling***

3.6.2. The Commission has taken Transmission Charges as per the Audited Accounts, as submitted by MSEDCL.

**Table 3-14: Transmission Charges for FY 2015-16 as per Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Transmission Charges paid to Transmission Licensee | 4,070 | 4,070 | 4,070 |

## 3.7. O&M Expenses for FY 2015-16

***MSEDCL's Submission***

3.7.1. MSEDCL has considered the O&M Expenses on actual basis as per its Audited Annual Accounts for FY 2015-16, as shown below:

**Table 3-15: O&M Expenses for FY 2015-16 as submitted by MSEDCL (Rs. Crore)**

| Particulars | FY 2015-16 (Actual) |
|---|---|
| Employee Expenses | 4,187 |

| Particulars | FY 2015-16 (Actual) |
|---|---|
| A&G Expenses | 641 |
| RM Expenses | 589 |
| **Net O&M Expenses** | **5,418** |

3.7.2. While MSEDCL has claimed O&M Expenses as per the Audited Annual Accounts, it has also sought that they be approved as per the norms specified in the MYT Regulations, 2011. Accordingly, it has worked out the O&M Expenses separately for the Wires Business and Supply Business on a normative basis in accordance with the Regulations.

3.7.3. MSEDCL has estimated O&M Expenses as per the norms, on the premise that all Supply Business consumers also use its Wires network. Further, most OA consumers have opted for partial OA, with very few using only Wires. Therefore, while estimating O&M on normative basis, MSEDCL has considered the same number of consumers for its Wires Business and its Supply Business. Similarly, considering the various capital investment schemes and consequent addition to its network, MSEDCL has considered the network asset base (GFA).The following Table provides the summary of O&M Expenses (net of O&M capitalization) for FY 2015-16.

**Table 3-16: Comparison of O&M Expenses for FY 2015-16 by MSEDCL (Wires + Supply) (Rs. crore), as submitted by MSEDCL**

| Particulars | MYT Order | Normative O&M | Actual /Audited |
|---|---|---|---|
| O&M Expenditure for Wires business | 4,527 | 4,760 | |
| O&M Expenditure for Retail Supply business | 2,005 | 2,082 | |
| **Operation and Maintenance Expenses** | **6,533** | **6,842** | **5,418** |

3.7.4. MSEDCL requested to approve the O&M Expenses as per the Audited Accounts and also undertake sharing of gains vis-à-vis the normative O&M expenses as per the MYT Regulations, 2011.

***Commission's Analysis and Ruling***

3.7.5. The Commission observes that MSEDCL has claimed O&M expenses for FY 2015-16 on normative basis while considering the same as controllable expense and shared the impact of efficiency gain/loss on account of its variation w.r.t actual/audited O&M expense during the year.

3.7.6. The Commission further observes that the actual O&M expense for FY 2015-16 is lower than the normative O&M expense during the period. The Commission has verified the actual O&M expense claimed by MSEDCL from the audited accounts for FY 2015-16. An increase of Rs. 132.68 crore is observed in Dearness Allowance (DA) for FY 2015-16 as compared to previous year. However, the overall employee expenses have reduced by Rs.364 crore in FY 2015-16 compared to previous financial year. As reported, the main factors attributable for decrease in overall employee expenses are reduction in gratuity payment and earned leave encashment.

3.7.7. For working out the allowable O&M expense for FY 2015-16, the Commission has applied the norms specified in Regulations 78.4.1 and 92.7.1 of the MYT Regulations, 2011. Revised sales, GFA and number of consumers for FY 2015-16, as approved in this Order is considered. Further, while estimating the O&M Expenses on normative basis, MSEDCL has taken parameters such as sales and GFA at the aggregate level, excluding those of the DF areas. As per terms of the DF arrangements, MSEDCL is not required to incur O&M expenditure towards DF operations. The Franchisee is required to undertake O&M activities within its area, for which it is suitably compensated as per the provisions of the Franchisee Agreement. Therefore, allowing normative O&M Expenses on these parameter values at the aggregate level excluding such DF areas is the correct approach.

3.7.8. Hence, for computing the normative O&M expenses for the Supply Business as well as for Wires Business, the Commission has excluded the sales, number of consumers and GFA pertaining to DFs.

**Table 3-17: O&M Expenses approved by Commission for FY 2015-16 (Wire)**

| Particulars | Units | MYT Order | MSEDCL Normative | Approved in this Order |
|---|---|---|---|---|
| **Composite O&M Norms** | | | | |
| **O&M Expenses Norm specified in Regulations** | | | | |
| For Wheeled Energy | Paisa/kWh | 14.34 | 14.34 | 14.34 |
| For No. of Consumers in Wires Business | Rs lakh/ '000 Consumers | 7.40 | 7.40 | 7.40 |
| For R&M Expenses | %of GFA | 4.00% | 4.00% | 4.00% |
| | | | | |
| **Parameters for O&M Expenses** | | | | |

| Particulars | Units | MYT Order | MSEDCL Normative | Approved in this Order |
|---|---|---|---|---|
| Wheeled Energy | MU | 111,028 | 109,543 | 109,543 |
| No. of Consumers in Wires Business | '000 Consumers | 22,330 | 23,151 | 23,151 |
| Opening GFA | Rs. crore | 32,073 | 36,905 | 35,677 |
| **Total O&M Expenses** | **Rs. crore** | **4,527** | **4,760** | **4,711** |

**Table 3-18: O&M Expenses approved by Commission for FY 2015-16 (Supply)**

| Particular | Units | MYT Order | MSEDCL Normative | Approved in this Order |
|---|---|---|---|---|
| **Composite O&M Norms** | | | | |
| **O&M Expenses Norm specified in Regulations** | | | | |
| For Sales in Supply Business | Paisa/kWh | 9.94 | 9.94 | 9.94 |
| For No. of Consumers in Supply Business | Rs lakh/ '000 Consumers | 5.13 | 5.13 | 5.13 |
| For R&M Expenses | %of GFA | 0.50% | 0.50% | 0.50% |
| **Parameters for O&M Expenses** | | | | |
| Sales | MU | 84,502 | 87,903 | 87,903 |
| No. of Consumers in Supply Business | '000 Consumers | 22,330 | 23,151 | 23,151 |
| Opening GFA | Rs. crore | 3,964 | 4,101 | 3,964 |
| **Total O&M Expenses** | **Rs. Crore** | **2,005** | **2,082** | **2,081** |

**Table 3-19: O&M Expenses for FY 2015-16 (Wires+Supply) approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Normative | MSEDCL Actual | Approved in this Order |
|---|---|---|---|---|
| O&M Expenditure for Wires business | 2,005 | 2,082 | | 2,081 |
| O&M Expenditure for Supply business | 4,527 | 4,760 | | 4,711 |
| **Operation and Maintenance Expenses** | **6,533** | **6,842** | **5,418** | **6,792** |

3.7.9. Under the MYT Regulations, 2011, the O&M Expense is a controllable parameter, and any difference between the approved O&M expenses and the actual O&M Expenses is an efficiency gain or loss shared among MSEDCL and consumers. Accordingly, the difference between the actual O&M Expenses as per the Audited Accounts and the O&M Expenses approved for FY 2015-16 are efficiency gain/loss, and shared between

MSEDCL and the consumers. The subsequent sections detailed the sharing of gains/losses.

## 3.8. Reconciliation of Opening GFA

***MSEDCL's Submission***

3.8.1. MSEDCL had filed an Appeal No. 227 of 2012 and IA No. 20 of 2014 challenging the Commission's Tariff Order dated 16th August, 2012 in Case No. 19 of 2012. In the said Appeal, MSEDCL has contended that the Commission had approved the capex and capitalization as submitted by it in its Tariff Petition for FY 2010-11, FY 2011-12 and FY 2012-13. However, due to difference in the opening balance of GFA, the actual expenditure allowed in the Tariff Order was lower than that submitted by MSEDCL.

3.8.2. In its Judgment dated 30 May 2014 in the said Appeals, the Hon'ble ATE ruled that the main reason for difference in the opening GFA was due to disallowance of certain capitalisation in earlier Orders for previous years due to non-submission of the requisite details. The Commission in the past had reconsidered the capitalisation whenever MSEDCL had furnished such details. Hon'ble ATE gave liberty to MSEDCL to file a Petition raising its claims with supporting documents, computations and explanation, and directed the Commission to consider the same and decide it according to law.

3.8.3. MSEDCL in its MYT Petition in Case No. 48 of 2016 had submitted the detailed reconciliation of GFA difference. However, the Commission did not consider the same.

3.8.4. Further, MSEDCL in its Petition for Review of MYT Order dated 3rd November 2016 (Case No. 48 of 2016) requested the Commission to reconcile the difference in GFA due to following counts:

A. Difference of Rs.815 Crores in capitalization approved for FY 2007-08;
B. Difference of Rs.208 Crores in capitalization approved for FY 2009-10;
C. Difference of Rs.112 Crores in capitalization approved for FY 2011-12.

3.8.5. Subsequently, the Commission issued order in the matter of Case No. 176 of 2016 rejecting the claims of MSEDCL in this regard. MSEDCL has requested that the treatment of above capitalization for inclusion in GFA needs to be seen in the light of ATE Judgment in Appeal No. 227 of 2012 & IA No. 20 of 2014. ATE Judgment does note that the Commission in the past had reconsidered the capitalization whenever MSEDCL had furnished such details.

3.8.6. With this background, MSEDCL has once again requested the Commission for reinstatement of GFA to the extent of capitalization claimed in this regard in the Petition. In this regard, MSEDCL made the following submission about chronology of events which is pertinent to note:

| Case No. | Considerations made in MERC Order | Remark |
|---|---|---|
| Case No.38 of 2014 | • The Commission considered capitalisation (in Table 36 of Order) to the tune of Rs.112 Crores (other Adjustments by Corp Office).<br>• But while calculating depreciation (Table 37 of the Order) the Commission has not increased the GFA to the extent of capitalisation of Rs.112 Crores and it slipped out of GFA basket of MSEDCL. | - Page 71 of 148<br>- Page 72 of 148 |
| Case No.121 of 2014 | • MSEDCL submitted CBA of Capex incurred during FY 2007-08 vide letter dated 30 July, 2014.<br>• Further, MSEDCL submitted difference in Capex related Expenses approved by Commission for FY 2007-08 to the tune of Rs.53.82 Crores.<br>• MSEDCL requested the Commission to adjust the Opening GFA.<br>• The Commission scrutinised the submissions of MSEDCL, and allowed Rs. 53.82 Crore as claimed for FY 2007-08.<br>• As no computations of additional claims have been submitted by MSEDCL, the Commission directed MSEDCL to submit reconciliation of GFA in the audited accounts and Regulatory accounts at the time of next tariff filing. | - Page 196 of 381<br>- Page 197 of 381<br>- Page 197 of 381<br>- Page 197 of 381<br>- Page 197 of 381 |
| Case No.48 of 2016 | • MSEDCL submitted statement of GFA reconciliation.<br>• But for computation of Depreciation the Commission considered GFA as approved by it earlier and not GFA as submitted by MSEDCL. | - Page 129 of 617<br>- Page 129 of 617 |

| Case No. | Considerations made in MERC Order | Remark |
|---|---|---|
| Case No.176 of 2016 | • Upon non-consideration of earlier capitalized schemes in GFA, MSEDCL sought review.<br>• The commission has rejected the reinstatement of GFA only on account of following:<br>• Non-submission of CBA for schemes of Rs.815 Crores capitalised in FY 2007-08;<br>• Adjustment in capitalisation to the tune of Rs.112 Crores has been already done in Case No.38/2014;<br>• MSEDCL's claim of capitalisation to the tune of Rs.208 Crores has been rejected by the Commission in its Order in Case No.21/2012. | - Page 24 of 53 |

3.8.7. In view of the above, MSEDCL has highlighted various instances from previous orders as follows:

MSEDCL has submitted that for capitalisation in FY 2007-08, MSEDCL has already submitted CBA to the Commission during proceedings in Case No.121/2014, which is noted by the Commission itself in its Order. As a matter of Principle, capex related expenses such as depreciation, interest on loan and return on equity get charged into tariff only after inclusion of capitalisation in GFA. Accordingly, the Commission in its Order in Case No.121 of 2014 allowed the difference of Rs 53.82 Crore in Capex related expenses as shown below:

| Particulars | Audited (Rs Crores) | Allowed after Final Truing up (Rs. Crores) | Difference (Rs. Crores) |
|---|---|---|---|
| Depreciation | 408.05 | 382.26 | 25.79 |
| Advance against Depreciation | 20.89 | 46.68 | -25.79 |
| Interest on Long term Capital | 241.54 | 233.54 | 8 |
| RoE | 545.18 | 499.36 | 45.82 |
| **Total for FY 2007-08** | | | **53.82** |

The capex related expenses such as depreciation, interest on loan and return on equity get charged into tariff only after inclusion of capitalisation in GFA. Considering the fact that the Commission has allowed the previously disallowed capex related expenses amounting to Rs 53.82 Crore, and the fact that as directed by the Commission, MSEDCL has submitted the reconciliation of GFA in Case No. 48 of 2016, the Commission ought to have considered the capitalisation of Rs. 815 Crore in GFA.

3.8.8. For capitalisation of Rs.112 Crores, MSEDCL highlighted that the Commission in its review Order in Case No.176 of 2016 has noted that adjustment in capitalisation to the tune of Rs.112 Crores has been already done in Case No. 38 of 2014. However, MSEDCL referred to Table 37 of said Order and submitted that the GFA has not been increased to the extent of Rs. 112 Crs. and has slipped out of approved GFA of MSEDCL.

3.8.9. MSEDCL has submitted that the Capitalisation of Rs.208 Crores has been done by MSEDCL in FY 2009-10 which is reflecting in Annual Accounts under different heads. The Commission in its Review Order dated 15.06.2012 in Case No.21 of 2012 has rejected the claim of capitalisation citing it has considered the latest submission of MSEDCL while considering Capitalisation for FY 2009-10. However, while doing so the Commission has ignored the figures from Audited Accounts and reconciliation submitted by MSEDCL in response to Data Gaps. MSEDCL has submitted that this capitalisation is mainly due to corporate office works which were not forming part of any scheme. MSEDCL has highlighted that in the past the Commission has allowed the recovery of capitalisation for corporate office works which are not a part of any specific scheme. In view of ATE judgment in Appeal No. 227 of 2012 & IA No. 20 of 2014, MSEDCL has requested to relook in to the capitalisation towards schemes not forming part of any specific scheme. Hence the capitalization of Rs 208 Crs. ought to have been considered.

3.8.10. In view of the above submissions, MSEDCL has requested the Commission to reconcile the GFA and accordingly the opening GFA for FY 2015-16 should be reinstated.

***Commission's Analysis and Rulings***

3.8.11. The Commission notes that MSEDCL has claimed for reinstatement of GFA which were not considered in earlier orders. It is further noted that MSEDCL has made similar claim in the past MYT Order in Case No. 48 of 2016 as well as the matter was reviewed by the Commission in the Review Order in Case 176 of 2016. The Commission notes that no detailed submissions were made by MSEDCL in the past Petitions regarding this. However, in the present Petition, MSEDCL has brought in reference of each of the past cases and item-wise capitalisation has been detailed. The Commission has perused each of the claims for GFA reinstatement made by MSEDCL in detail in the present Order.

3.8.12. As regards the claim of reinstatement of Rs. 112 Crore, the Commission notes that the same is on account of capitalisation undertaken at corporate office during FY 2011-12. It is observed that under Case No. 38 of 2014, while truing up expenses for FY 2011-12, it had allowed such capitalisation and reported under the table of approved capitalisation for FY 2011-12. However, while considering the approved GFA, the same was not accounted for in the Order. In view of the above, the same should have been made part of the allowed GFA during the year. Accordingly, based on the submission made by MSEDCL and since such capitalisation was already allowed in the past Order, the same is allowed through this Order.

3.8.13. As regards the claim of reinstatement of Rs. 815 Crore the Commission notes that it has already allowed the depreciation, interest and RoE towards such capitalisation in FY 2007-08; however it had not considered such capitalisation while allowing the GFA addition during the year. The relevant extract of the Order in Case No.121 of 2014 is reproduced as under.

*"MSEDCL has submitted the CBA of Non DPR Schemes to the Commission vide letter dated 30 July, 2014. It requested the Commission to allow the difference between the audited capex-related expenses and those allowed after Final Truing up (in Case No.116 of 2008 dated 17 August, 2009) as shown in the following Table.*

***Difference in Capex-related Expenses approved by Commission for FY 2007-08***

| ***Particulars*** | ***Audited (Rs Crores)*** | ***Allowed after Final Truing up (Rs. Crores)*** | ***Difference (Rs. Crores)*** |
|---|---|---|---|
| *Depreciation* | *408.05* | *382.26* | *25.79* |
| *Advance against Depreciation* | *20.89* | *46.68* | *-25.79* |
| *Interest on Long term Capital* | *241.54* | *233.54* | *8* |
| *RoE* | *545.18* | *499.36* | *45.82* |
| ***Total for FY 2007-08*** | | | ***53.82*** |

*The Commission has scrutinised the submissions of MSEDCL, and allowed Rs. 53.82 Crore as claimed for FY 2007-08. However, with regard to the consequential adjustment of Opening GFA and corresponding capital expenditure-related expenses for subsequent period from FY 2008-09 onwards, no computations of such additional claims have been submitted by MSEDCL. For these additional claims, the opening loan, opening equity and opening GFA for the respective years will have to be restated and reconciled vis-a-vis those approved. The Commission notes that the figures of opening GFA, opening equity and opening loan for FY 2013-14 shown in the Petition are different from the closing figures for FY 2012-13 as approved in Case No. 38 of 2014. MSEDCL's response to the Commission's query regarding this difference is not satisfactory. It has submitted that it is difficult to provide reconciliation of loan and equity due to the normative approach followed in earlier Orders. MSEDCL has neither claimed such adjustments nor has it provided any computations or supporting documents for the purpose. MSEDCL needs to reconcile and submit its computation of claims for past periods to enable the Commission to scrutinise, verify and ascertain such claims before they can be allowed. MSEDCL may do so in its next Tariff filing. In this Order, the Commission has allowed only the amount of Rs 53.82 Crore, as claimed by MSEDCL."*

3.8.14. From the above, the Commission notes that, the Order has recognised capitalisation amount towards which depreciation, interest and RoE were allowed. In this context, the capitalisation is allowable and has to be added in the GFA, which needs to be permitted. However any consequent changes on account of the same in future years as mentioned in the Order cannot still be allowed as no such computation or workings has been provided by MSEDCL. In this context, the capitalisation amount only can be allowed and consequent change in GFA can be permitted.

3.8.15. As regards MSEDCL's claim of allowing capitalisation of Rs. 208 crore in FY 2009-10, the same has already been rejected by the Commission in its Order dated 15 June, 2012 (Case No. 21 of 2012). In this context, there is no merit in the claim of MSEDCL and such capitalisation and consequent reinstatement of GFA cannot be permitted in this Order.

3.8.16. In view of the foregoing, reinstatement of GFA to the tune of Rs. 927 crore (Rs. 112 crore + Rs. 815 core) has been allowed in this Order and claim of reinstatement of GFA of Rs. 208 crore has not been accepted. Moreover, as stated above any consequent changes on account of the same in future years is still not allowed as no detail submission or computation on the account has been provided by MSEDCL. Accordingly, the allowed GFA of Rs. 927 crore has been added to the approved opening GFA of FY 2015-16.

## 3.9. Capital Expenditure and Capitalisation for FY 2015-16

***MSEDCL's Submission***

3.9.1. MSEDCL has submitted the details of capital expenditure and capitalisation that it has considered for FY 2015-16. The following Tables summarise the details of capital expenditure and capitalisation for DPR and Non-DPR schemes:

**Table 3-20: Capex and Capitalisation as submitted by MSEDCL for FY 2015-16 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Capex | 6143 | 5,043 |
| Capitalisation | 2,715 | 3,915 |

**Table 3-21: DPR Scheme Capex and Capitalisation as submitted by MSEDCL for FY 2015-16 (Rs. crore)**

| DPR Scheme | Capital Expenditure | Capitalisation |
|---|---|---|
| Infra Plan Works | 105 | 130 |
| Infra Plan Works - II | 3,553 | 2,388 |
| Additional Infra _II | - | - |
| GFSS - I | 0.27 | 2 |
| GFSS - II | 5 | 32 |
| GFSS - III | 52 | 53 |
| GFSS IV | 15 | 16 |
| GFSS (Shrirampur) | - | - |
| Fixed Capacitor Scheme | 1 | - |
| **LT Capacitor Phase I & II** | - | - |
| Single Phasing - Left out villages | 2 | 4 |
| Elimination of 66 KV Line | - | - |
| AMR | - | - |
| APDRP | - | - |

| DPR Scheme | Capital Expenditure | Capitalisation |
|---|---|---|
| Phase-I | 0.41 | 5 |
| Phase-II | 15 | 6 |
| **RAPDRP A** | 56 | 119 |
| RAPDRP B | 394 | 416 |
| SCADA Part A | - | - |
| SCADA Part B | - | - |
| Internal Reform | - | - |
| DTC Metering | - | - |
| Phase-I & Phase-II | - | - |
| Phase-III | 12 | 16 |
| SPA:PE | 145 | 146 |
| P:SI | 11 | 25 |
| P:IE | 2 | 2 |
| DRUM | - | - |
| RGGVY | 1 | 17 |
| ERP | - | - |
| Agriculture Metering | 113 | 107 |
| MIDC Interest free Loan Scheme | - | - |
| Deogad Wind Power Project | - | - |
| Ag DSM-Pilot project in Mangalwedha, solapur | - | - |
| Star rated celing fan Phase-I | - | - |
| Star rated celing fan Phase-II (HVAC) | - | - |
| DDUGJY | - | - |
| IPDS | - | - |
| Sinhansth Kumbmela Nashik | - | - |
| **Total DPR Schemes** | **4,482** | **3,484** |

**Table 3-22: Non-DPR Scheme Capex and Capitalisation as submitted by MSEDCL for FY 2015-16 (Rs. crore)**

| Non-DPR Schemes | Capital Expenditure | Capitalisation |
|---|---|---|
| FMS | 1 | 1 |
| MIS / IT Backbone ( Integrated system +Big Data + Communication Backbone) | 0.03 | 0.03 |
| Load Management | - | - |
| Distribution Scheme | - | - |
| P.F.C.Urban Distribution Scheme | 0.18 | 0.20 |

| Non-DPR Schemes | Capital Expenditure | Capitalisation |
|---|---|---|
| MIDC Interest free Loan Scheme | - | - |
| Evacuation | 3 | 4 |
| Evacuation Wind Generation ** | 16 | 24 |
| R E Dist | - | - |
| I-RE/ND | - | - |
| DPDC / Non-Tribal | 82 | 29 |
| DPDC / SCP (Loan up to 2012-13) | 26 | 16 |
| DPDC / TSP + OTSP | 158 | 90 |
| Rural Electrification | - | - |
| JBIC | - | - |
| New consumers | 37 | 36 |
| Back log | 92 | 60 |
| Ag Special Package for Vidabhrba /maratwada & maha | 95 | 64 |
| Single Phasing | - | 8 |
| Special Action Plan (Nandurbar) | - | - |
| Ag Special Package for Vidabhrba /maratwada | - | - |
| Single Phasing - I, II, III | - | - |
| Drauoght Fund from Govt. | 52 | - |
| **Total Non-DPR Schemes** | **561** | **330** |

**Table 3-23: Summary of Capex and Capitalisation as submitted by MSEDCL for FY 2015-16 (Rs. crore)**

| Particulars | FY 2015-16 (Actual) |
|---|---|
| **Capital Expenditure** | |
| DPR Schemes | 4,482 |
| Non DPR Schemes | 561 |
| **Total** | 5,043 |
| **Capitalisation** | |
| DPR Schemes | 3,484 |
| Non DPR Schemes | 330 |
| **Total** | **3,814** |

3.9.2. As per the Annual Accounts, the addition to GFA is Rs. 3,914.82 crores (incl disposal/adjustment), whereas in Form 4.2 MSEDCL has shown capitalisation as Rs. 3,813.76 crore. MSEDCL clarified that, in Form 4.2, only scheme-wise details have been shown, whereas in the Annual Accounts the Addition to GFA is shown in totality, including land and land rights, buildings, etc. The details are shown in the following table:

**Table 3-24: Summary of Capitalisation for FY 2015-16, as submitted by MSEDCL**

| Sr. No. | Particulars | Amount (Rs. crore) |
|---|---|---|
| 1 | Capitalisation as per Note 12 of Annual Accounts | 3,915 |
| 2 | Capitalisation as per Form 4 (A) | 3,814 |
| 3 | **Other Assets** | |
| 4 | Land | 53 |
| 5 | Buildings | 10 |
| 6 | Vehicles | 0.27 |
| 7 | Furniture & Fixtures | 3 |
| 8 | General Assets | 27 |
| 9 | Other Civil Works | 8 |
| | **Total (2 to 9)** | **3,915** |

***Commission's Analysis and Rulings***

3.9.3. The Commission has perused the capitalisation details of the schemes as claimed by MSEDCL for FY 2015-16. MSEDCL has claimed excess capitalisation over and above their in-principle approved cost. The scheme-wise excess capitalisation is provided in the following Table.

**Table 3-25: Excess Capitalisation claimed by MSEDCL in FY 2015-16 (Rs. Crore)**

| Major Schemes | Excess Capitalisation in FY 2015-16 |
|---|---|
| Infra Plan Works | 130 |
| GFSS - I | 2 |
| GFSS - II | 32 |
| GFSS - III | 53 |
| RAPDRP A | 119 |
| Phase-III | 16 |
| SPA:PE | 146 |
| P:SI | 25 |
| P:IE | 2 |
| RGGVY | 17 |
| **Total** | **541** |

3.9.4. Regulation 27.2 of MYT Regulations, 2011 specifies the provisions to be referred while allowing capitalisation.

"*The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff:*
*Provided that prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff.*"

3.9.5. As regards Infra Plan Works II, the Commission in the Review order in Case No. 176 of 2016, has provided dispensation as given below:

"*B. Capitalization of 'Infrastructure Plan-II' Scheme for FY 2015-16*
*45. According to MSEDCL, it had submitted the capitalization of 'Infrastructure PlanII' scheme as Rs. 2,440 crore but the impugned MYT Order allowed only Rs. 483 crore without stating how this figure was arrived at. The Commission notes that this figure of Rs. 483 crore was taken from the Progress Report on the Infrastructure Schemes (upto March, 2016) submitted by MSEDCL vide its e-mail dated 8 September, 2016. Such periodic Progress Reports are a part of the process of monitoring of the implementation of capital expenditure schemes which have been approved in principle by the Commission. Hence, there is no error in considering Rs. 483 crore as the capitalization for FY 2015-16. However, considering the audited figures of capitalization for FY 2015-16 now available, MSEDCL may make its claim in its forthcoming MTR Petition along with the Cost Benefit Analysis report*."

3.9.6. In the MTR Petition, MSEDCL has submitted capital expenditure of Rs. 3,553.48 crores and claimed capitalisation of Rs. 2,387.93 crores against Infra Plan Works II. The Commission has verified the claim of MSEDCL from the cost benefit analysis report for the scheme submitted along with the Petition.

3.9.7. As emphasised in earlier Orders also, significant capitalisation is due to time over run of the schemes, and excess interest was incurred which would have been capitalised as IDC. Due to excess capitalisation, an undue burden of excess IDC is being passed on to consumers, which is not justifiable. Further, the Commission observes that MSEDCL does not maintain scheme-wise IDC computations. Instead IDC is computed as a fixed percentage of the total capitalisation of each scheme. In case of schemes with excess capitalisation over and above the in-principle approved capital cost, in this Order the Commission has continued to disallow 50% of the IDC worked out by MSEDCL.

3.9.8. The IDC component included in the excess capitalisation works out to Rs. 14.01 crore. The Commission has allowed only 50% of this IDC component, amounting to Rs. 7.01 crore.

3.9.9. Further Regulation 27.5 of MYT Regulations, 2015 specifies limit on capitalisation of non-DPR schemes that are allowable.

> *"The Commission may approve for each year of the Control Period, an additional amount equivalent to 20% of the total capital expenditure approved for respective financial year of the Control Period towards unplanned capital expenditure or the capital expenditure that is included under the Business Plan but is yet to be approved by the Commission."*

In line with the above Regulations, capitalisation towards non-DPR schemes has been allowed only up to that threshold level.

3.9.10. Based on the above, the Capitalisation allowed for FY 2015-16 is as follows:

**Table 3-26: Capitalisation approved by Commission for FY 2015-16 (Rs. Crore)**

| Particulars | Reference | FY 2015-16 |
|---|---|---|
| Total DPR scheme capitalization allowed | a | 3,484 |
| Total Excess Capitalisation in the year | b | 541 |
| 50% of IDC of excess capitalisation | c | 7 |
| **Net DPR Allowed after adjusting IDC of excess capitalisation** | **d=a-c** | **3,477** |
| Allowable non-DPR scheme capitalisation (considering 20% cap) | e =20% of d | 695 |
| Non-DPR scheme capitalisation claimed | f | 330 |
| **Net Non-DPR capitalisation approved** | **g=min(e,f)** | **330** |
| Capitalisation allowed towards schemes not forming part of any specific scheme | **i** | **101** |
| **Total (DPR+ non-DPR Capitalisation)** | **j=d+g+i** | **3,908** |

3.9.11. Accordingly, the total capitalisation approved for FY 2015-16 is summarised as shown below:

**Table 3-27: Capitalisation for FY 2015-16 (Rs crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Capitalisation | 2,715 | 3,915 | 3,908 |

## 3.10. Depreciation for FY 2015-16

***MSEDCL's Submission***

3.10.1. Depreciation for FY 2015-16 has been calculated considering the opening balance of assets at the beginning of the year and the actual capitalisation in FY 2015-16. The depreciation rates are as per the MYT Regulations, 2011. The amount of depreciation claimed by MSEDCL is as follows:

**Table 3-28: Depreciation as submitted by MSEDCL for FY 2015-16 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Opening GFA | 40,510 | 41,874 |
| Depreciation | 1,857 | 1,876 |
| % Depreciation | 4.58% | 4.48% |

3.10.2. MSEDCL has submitted that depreciation for FY 2015-16 as per audited accounts is Rs 2,746.46 Crs which includes depreciation of Rs 870.50 Crs, on the differential value due to revaluation of assets transferred under the scheme of financial restructuring of erstwhile Maharashtra State Electricity Board (MSEB), the reference of which has been given in the Note No. 30(26) of the Audited Accounts of FY 2015-16.

3.10.3. MSEDCL has submitted that the opening GFA considered for FY 2015-16 is on actual basis of Audited figure. Regarding the reconciliation of opening GFA in previous order and Petition, MSEDCL submitted that the difference is because of certain disallowances in the past by the Commission. MSEDCL has requested the Commission to consider the Opening GFA for FY 2015-16 as per its submission.

3.10.4. MSEDCL has submitted that in MYT Order dated 3rd November, 2016, the Commission in terms of Regulations 25.2(c) has not allowed depreciation to the extent of GFA established through consumer contribution and grants for the 3rd Control Period. Meanwhile, Ministry of Corporate Affairs (MCA) has issued Indian

Accounting Standards (IND AS) converged with IFRS, which is applicable to MSEDCL from FY 2016-17 with comparative period of one year. In pursuance with IND AS 20, Govt. Grant relating to the purchase of property, Plant and Equipment are presented as capital Grant in financial statements and are credited to P&L in a systematic manner over the expected life of related assets and presented within other operating income. Thus consequent upon adoption of IND AS, MSEDCL has recognised grant as deferred income in P&L to the extent of corresponding depreciation over the period of useful life from FY 2016-17.

3.10.5. MSEDCL has raised the issue of change in accounting policy in Review Petition (Case No. 176 of 2016). The Commission undertook this deduction in the GFA as per the provision of MYT Regulation, 2015 and thus it cannot be construed as error. Accordingly, the Commission directed MSEDCL to take up this matter in the MTR.

3.10.6. In view of the above, MSEDCL has requested the Commission to take cognizance of prevailing IND AS 20 and accordingly consider Depreciation on Gross Asset (including Grant) and Grant deferred (other income) as per Audited Accounts, while Truing Up of 3rd Control Period. MSEDCL has stated that if Commission adheres to the provisions in MYT Regulations, 2015 and computes depreciation by deducting grant and consumer’s contribution from GFA, the Commission may exclude grant deferred income from Non-tariff income while truing up.

***Commission’s Analysis and Rulings***

3.10.7. MSEDCL has claimed depreciation of Rs. 1,876 crores against approved depreciation of Rs. 1,857 crores in MYT Order.

3.10.8. Commission has noted the submission of MSEDCL regarding the financial restructuring plan (FRP) concluded in FY 2015-16. However, as per provisions of MYT Regulations, 2011, no impact of FRP has been considered while allowing depreciation for FY 2015-16. The Commission notes that even MSEDCL has not asked of any impact owing to the FRP scheme on depreciation and has considered depreciation excluding the impact of FRP.

3.10.9. Regarding reconciliation of opening GFA and closing GFA, the Commission has dealt with this issue in detail in the previous section of this Order and has considered impact of Rs 927 Crore which is now added to the opening GFA of the FY 2015-16 and has approved revised opening GFA for FY 2015-16. Accordingly, the depreciation has been reworked on a pro-rata basis on the approved Opening GFA for FY 2015-16 for the purpose of True-Up.

3.10.10. As regards the issue of change in accounting practice and corresponding treatment of consumer grants and contributions, the Commission would like to highlight that consumer contribution and grants have not been deducted from GFA while working out depreciation for FY 2015-16 in line with its practice in previous orders.

3.10.11. Accordingly, the depreciation approved for FY 2015-16 is as follows:

**Table 3-29: Summary of Depreciation for FY 2015-16 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Depreciation | 1,857 | 1,876 | 1,856 |

## 3.11. Interest Expenses for FY 2015-16

***MSEDCL's Submission***

3.11.1. MSEDCL submitted that the interest expenditure on account of long-term loans depends on the outstanding loan, repayments, and prevailing interest rates on the outstanding loans. Further, the projected capital expenditure and the funding of the same also have a major bearing on the long-term interest expenditure.

3.11.2. In reference to Regulation 33.3 of MYT Regulations, 2011, MSEDCL has submitted that the loan repayment is considered equal to depreciation for calculation of interest. Further, MSEDCL has computed the weighted average interest rate considering the average of loan (opening and closing) and interest paid during FY 2015-16 as 11.83%. MSEDCL has submitted that the interest is calculated on the normative average loan during the year using weighted average interest rate as shown in the following table:

**Table 3-30: Interest Expenses for FY 2015-16**

| Particulars | FY 2015-16 (Approved) | FY 2015-16 (Normative) | Deviation |
|---|---|---|---|
| Normative Outstanding Loan at beginning of the year | 14,415 | 14,415 | - |
| Loan Drawal | 1,975 | 1,804 | (171) |
| Loan Repayment | 1,857 | 1,876 | 19 |
| Normative Balance outstanding at the end of the year | 14,533 | 14,343 | (190) |

| Particulars | FY 2015-16 (Approved) | FY 2015-16 (Normative) | Deviation |
|---|---|---|---|
| Interest Rate | 11.83% | 11.83% | |
| Gross Interest Expenses | 1,712 | 1,700 | (12) |

***Commission's Analysis and Rulings***

3.11.3. The Commission has allowed the interest expenses on normative basis linked to the normative opening loan and normative loan addition approved during the year. Further, for arriving at the interest rate, the Commission has considered the weighted average interest rate of actual loan portfolio of FY 2015-16.

3.11.4. Further, the Commission has verified that there is no retirement of assets from the Audited Accounts of FY 2015-16.

3.11.5. The Commission has ensured debt equity ratio of 70:30 and wherever equity is higher than 30%, the same has been considered as normative loan. The funding pattern for FY 2015-16 for the capitalisation approved by the Commission, in proportion to the funding pattern of capital expenditure adopted by MSEDCL and considering the approved capitalisation for the respective year, is presented in the following table:

**Table 3-31: Funding of Capitalisation approved by Commission for FY 2015-16**

| Particular | Amount (Rs. crore) | Funding Mix (%) |
|---|---|---|
| Total Capitalisation | 3807 | |
| Less: Consumer Contribution | 182 | |
| Less: Grants | 1160 | |
| Balance to be funded | 2465 | |
| Equity | 665 | 27% |
| Debt | 1800 | 73% |

3.11.6. The rate of depreciation has been allowed as per Regulation 33 of MYT Regulations as 11.83%, as claimed by MSEDCL. The opening loan balance for FY 2015-16 is approved equivalent to the approved closing loan of FY 2014-15 as approved in the MYT Order in Case 48 of 2016.

**Table 3-32: Interest Expenses approved by the Commission for FY 2015-16 (Rs. Crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Opening Balance of Gross Normative Loan | | | |
| Cumulative Repayment till the year | | | |
| Opening Balance of Net Normative Loan | 14,415 | 14,415 | 14,415 |
| Less: Reduction of Normative Loan due to retirement or replacement of assets | | | |
| Addition of Normative Loan due to capitalisation during the year | 1,975 | 1,804 | 1,800 |
| Repayment of Normative Loan during the year | 1,857 | 1,876 | 1,856 |
| Closing Balance of Net Normative Loan | 14,533 | 14,343 | 14,359 |
| Closing Balance of Gross Normative Loan | | | |
| Average Balance of Net Normative Loan | 14,474 | 14,379 | 14,387 |
| Weighted average Rate of Interest on actual Loans (%) | | | |
| Interest Expenses | 1,712 | 1,700 | 1,701 |
| Expenses Capitalised | - | - | |
| **Total Interest Expenses** | **1,712** | **1,700** | **1,701** |

### 3.12. Return on Equity for FY 2015-16

***MSEDCL's Submission***

3.12.1. MSEDCL has claimed RoE in accordance with Regulation 32.2 of the MYT Regulations, 2011 and reproduced as follows:

> "*Return on equity capital for the Transmission Licensee and Wires Business of Distribution Licensee shall be computed on the equity capital determined in accordance with Regulation 30 at the rate of 15.5 % per cent per annum, and for the Retail Supply of Electricity of Distribution Licensee, Return on equity capital shall be allowed a return at the rate of 17.5 % per cent per annum, in Indian Rupee terms, on the amount of equity capital determined in accordance with Regulation 30*"

3.12.2. The RoE for Wires Business has been computed at 15.5% on the average equity based on the opening balance of equity and normative additions during the year, arrived at by taking 30% of the net capital expenditure (net of consumer contribution and grants as funded from equity). Accordingly, the RoE for the Wires Business submitted by

MSEDCL is as under:

**Table 3-33: Calculation of capital expenditure, equity portion and asset capitalisation as per MSEDCL**

| Sl. No. | Particulars | MYT Order | MSEDCL Petition |
|---|---|---|---|
| 1 | Capital Expenditure | -- | 5,043 |
| A | Less Grant | -- | 1,537 |
| B | Capital Expenditure (excl Grants) | -- | 3,506 |
| 2 | Equity | | |
| A | Internal Accrual | -- | 784 |
| B | GoM Equity | -- | 337 |
| C | Consumer Contribution | -- | 241 |
| 3 | Total Equity | -- | 881 |
| 4 | **Equity portion of capital expenditure 4= (3/1b)** | | 25.12% |
| 5 | Assets Capitalisation | | |
| A | Capitalisation | -- | 3,814 |
| B | Assets Capitalisation (to be considered in proportion to 1b) | -- | 2,652 |
| **6** | **Equity portion of Assets Capitalisation** | **1,255** | **666** |

3.12.3. The return on equity capital is allocated in the proposed ratio of Fixed Assets between the Wires and Retail Supply Business, i.e. 90% to Wires Business and 10% to Supply Business. Therefore, the capital expenditure, grants, equity and capitalisation is divided into wires and supply business in the ratio of 90:10.

3.12.4. MSEDCL has submitted in form 4.4, the details of year wise funding for various schemes showing the debt equity portion arranged. MSEDCL has further submitted that few capital works funded through consumer contribution have been reconciled at the time of finalisation of accounts, however, it will be difficult to project and allocate the consumer contribution to any particular scheme. Hence, for the purpose of computation of RoE, MSEDCL has considered the consumer contribution based on historical experience and capital expenditure as shown in above table.

3.12.5. For calculation of equity portion, as per the MERC Regulations, MSEDCL has deducted the grants received from the expenditure and accordingly, has worked out capitalisation of expenditure in proportion to the capital expenditure.

3.12.6. For wires business, the RoE has been computed by MSEDCL at 15.5% on average equity based upon the opening balance of equity and normative additions during the year FY 2015-16 as below:

**Table 3-34: RoE for Wires Business for FY 2015-16 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | FY 2015-16 (Actual) | Deviation |
|---|---|---|---|
| Equity at the beginning of the year (Wires) | 8,589 | 9,220 | |
| Capital Expenditure incurred (excl. Grants) | | 3,156 | |
| Equity portion of capital expenditure | | 793 | |
| % of Equity portion of capital expenditure | | 25.12% | |
| Assets Capitalisation | | 2,386 | |
| Equity portion of Assets Capitalisation | 257 | 599 | |
| **Equity at the end of the year** | **8,846** | **9,819** | **973** |
| **Return on Computation** | | | |
| Return on Equity at the beginning of the year-15.5% | 1,331 | 1,429 | 98 |
| Return on Normative Equity portion of Asset Capitalisation | 20 | 46 | 27 |
| | | | |
| **Total Return on Equity** | **1,351** | **1,457** | **124** |

3.12.7. For the Supply Business, the RoE has been computed by MSEDCL at the rate of 17.5% on the average equity taking the opening balance of equity and normative additions during the year. Accordingly, the RoE for the Retail Supply Business as submitted by MSEDCL for FY 2015-16 is as under:

**Table 3-35: RoE for Supply Business for FY 2015-16 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | FY 2015-16 (Actual) | Deviation |
|---|---|---|---|
| Equity at the beginning of the year (Supply) | 954 | 1,024 | |
| Capital Expenditure incurred (excl. Grants) | | 351 | |
| Equity portion of capital expenditure | | 88 | |
| % of Equity portion of capital expenditure | | 25.12% | |
| Assets Capitalisation | | 265 | |
| Equity portion of Assets Capitalisation | 29 | 67 | |
| **Equity at the end of the year** | **983** | **1,091** | **108** |
| **Return on Computation** | | | |

| Particulars | MYT Order | FY 2015-16 (Actual) | Deviation |
|---|---|---|---|
| Return on Equity at the beginning of the year-17.5% | 167 | 179 | 12 |
| Return on Normative Equity portion of Asset Capitalisation | 3 | 6 | 3 |
| Interest on Equity portion above 30% @11.83%p.a | | | |
| **Total Return on Equity** | **169** | **185** | **16** |

***Commission's Analysis and Rulings***

3.12.8. The closing equity approved by the Commission at the end of FY 2014-15 in the MYT Order has been taken by the Commission as the opening equity for FY 2015-16. Further, the Commission has verified that there is no retirement of assets from the Audited Accounts of FY 2015-16.

3.12.9. The Commission has worked out RoE approved separately for wire and supply business as follows:

**Table 3-36: Return on Equity (Wires) for FY 2015-16 approved by Commission (Rs. crore)**

| Particulars | % | FY 2015-16 |
|---|---|---|
| Equity at the beginning of the year | | 8,713 |
| Equity portion of Assets Capitalisation | | 598 |
| **Equity at the end of the year** | | 9,311 |
| **Return on Computation** | | |
| Return on Equity at the beginning of the year - @15.5% | 15.50% | 1,350 |
| Return on Normative Equity portion of Asset Capitalisation - @15.5%/2 | 15.50% | 46 |
| **Total Return on Equity** | | **1,397** |

**Table 3-37: Return on Equity (Supply) for FY 2015-16 approved by Commission (Rs. crore)**

| Particulars | % | FY 2015-16 |
|---|---|---|
| Equity at the beginning of the year | | 968 |
| Equity portion of Assets Capitalisation | | 66 |
| **Equity at the end of the year** | | 1,034 |
| **Return on Computation** | | |

| Particulars | % | FY 2015-16 |
|---|---|---|
| Return on Equity at the beginning of the year - @17.5% | 17.50% | 169 |
| Return on Normative Equity portion of Asset Capitalisation - @17.5%/2 | 17.50% | 6 |
| **Total Return on Equity** | | **175** |

**Table 3-38: RoE approved by Commission (Wires+Supply) (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| RoE for Wires Business | 1,351 | 1,475 | 1,397 |
| RoE for Retail Supply Business | 169 | 185 | 175 |
| **Return on Equity** | **1,521** | **1,660** | **1,572** |

### 3.13. Interest on Working Capital for FY 2015-16

***MSEDCL's Submission***

3.13.1. Regulations 35.3 and 35.4 of the MYT Regulations, 2011 specify the norms for IoWC for Wires and Supply Business. Accordingly, the IoWC and interest on Security Deposit for the Wires Business submitted by is presented in the following Table:

**Table 3-39: Interest on Working Capital and Security Deposit for Wires Business for FY 15-16 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| **Computation of Working Capital** | | |
| One-twelfth of the amount of Operations and Maintenance Expenses | 377 | 397 |
| One-twelfth of the sum of the book value of stores, materials and supplies | 57 | 71 |
| Two months of the expected revenue from charges for use of Distribution Wires at prevailing tariffs | 1,467 | 1,516 |
| *Less:* | | |
| **Amount of Consumers' Security Deposit** | | |
| From Distribution System users | (606) | (617) |
| **Total Working Capital** | **1,295** | **1,367** |
| **Computation of working capital interest** | | |
| Rate of Interest (% p.a.) | 14.75% | 14.75% |

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| **Interest on Working Capital** | **191** | **202** |
| **Interest on Consumers' Security Deposit** | | |
| | | |
| Rate of Interest (% p.a.) | 7.75% | 7.75% |
| **Interest on Consumers' Security Deposit** | **47** | **48** |

3.13.2. The provision in the Regulations of reducing the working capital by the total amount of Consumer Security Deposit (CSD) is resulting in the net working capital being negative for the Supply Business. Therefore, the working capital requirement based on normative principles works out to zero. However, the amount of CSD reflected in its Books of Accounts is a notional amount. Although it is reflected in the Balance Sheet, in the Transfer Scheme MSEDCL has not physically received such deposits in cash from the erstwhile Maharashtra State Electricity Board (MSEB).

3.13.3. MSEDCL submitted that the opening Balance of Consumer Security Deposit is Rs.1,823 Crore. Even though, subsequently, MSEDCL received security deposit from consumers, due to opening balance, MSEDCL is suffering loss of actual interest paid due to normative practise adopted by Commission. Therefore, MSEDCL requested not to consider the opening balance of Consumer Security Deposit while calculating the working capital requirement. Accordingly, MSEDCL has claimed the balance IoWC in the Supply Business, i.e., IoWC as per Audited Accounts less the IoWC claimed in the Wires Business. The IoWC for the Retail Supply Business is as shown below:

**Table 3-40: Interest on Working Capital and Consumers' Security Deposit for Supply Business for FY 2015-16 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| **Computation of Working Capital (Supply Business)** | | |
| One-twelfth of the amount of Operations and Maintenance Expenses | 167 | 173 |
| One-twelfth of the sum of the book value of stores, materials and supplies | 6 | 8 |
| Two months of the expected revenue from sale of electricity at the prevailing tariff | 9,152 | 8,419 |
| *Less:* | | |
| Amount held as Security Deposit | (5,455) | (5,557) |
| One month equivalent of cost of power purchased | (3,670) | (3,975) |

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| | | |
| **Total Working Capital** | **200** | **(931)** |
| **Computation of working capital interest** | | |
| Rate of Interest (% p.a.) | 14.75% | 14.75% |
| **Interest on Working Capital** | **30** | **494** |
| | | |
| **Interest on Security Deposit** | | |
| Rate of Interest (% p.a.) | 7.75% | 7.75% |
| **Interest on Consumers' Security Deposit** | **423** | **384** |

***Commission's Analysis and Ruling***

3.13.4. Commission verified the actual Interest on Working Capital for FY 2015-16 from the audited accounts of MSEDCL. Since the actual IoWC expense presented as Rs. 695 crore for FY 2015-16 did not match the Audited Accounts (Rs.640 crore as per Note 28), the Commission sought reconciliation. MSEDCL stated that, as per Note 28, it has considered the Interest on Medium-term Loans from REC amounting to Rs. 55 crore in the IoWC since it was availed for working capital. Accordingly, the total IoWC expense as reconciled by MSEDCL works out to Rs. 695 crore as shown in the following Table.

**Table 3-41: Interest on Working Capital for FY 2015-16, as submitted by MSEDCL**

| Particulars | Amount (Rs. crore) |
|---|---|
| Interest on Working Capital Loan | 640.00 |
| Interest on Medium-term Loans from REC | 55.07 |
| **Total Interest on Working Capital Loan** | **695.08** |

3.13.5. Regarding rate of interest on working capital, the same is allowed on normative basis equivalent to the State Bank Advance Rate (SBAR) of State Bank of India as on the date on which the application for determination of tariff for FY 2015-16 was made. The same is in line with Regulations 35 of the MYT Regulations, 2011.

3.13.6. For the purpose of truing up of Interest on Security Deposit, the Commission has considered the actual security deposit for the year and applied rate of interest on CSD equivalent to the Bank Rate of the RBI as on the date on which the application for determination of tariff for FY 2015-16 was made by the Petitioner. This is in accordance with Regulation 35.3 (c) and 35.4 (c) of the MYT Regulation 2011 respectively for wires and supply business.

3.13.7. The Commission thus has reworked the IoWC in accordance with the MYT Regulations, 2011 norms and based on parameters such as the O&M Expenses, Wires ARR and Supply ARR approved in this Order.

**Table 3-42: Interest on Working Capital and Security Deposit for Wires Business as approved by Commission for FY 2015-16 (Rs. crore)**

| Particulars | FY 2015-16 | |
|---|---|---|
| | MSEDCL Petition | Approved in this Order |
| One-twelfth (1/12) of amount of O&M expenses | 397 | 393 |
| One-twelfth (1/12) of sum of the book value of stores, materials and supplies including fuel on hand at the end of each month of such financial year | 71 | 72 |
| Two months of expected revenue from charges for use of Distribution wires | 1,516 | 1,495 |
| Less: Amount held as Security Deposit from Distribution System Users | (617) | (617) |
| **Total Working Capital Requirement** | 1,367 | 1,342 |
| Rate of Interest (% p.a.) | 14.75% | 14.75% |
| **Interest on Working Capital** | **202** | **198** |
| | | |
| **Interest on Security Deposit** | | |
| Rate of Interest (% p.a.) | 7.75% | 7.75% |
| **Interest on Security Deposit** | **48** | **48** |

**Table 3-43: Interest on Working Capital and Consumers' Security Deposit for Supply Business as approved by Commission for FY 2015-16 (Rs crore)**

| Particulars | FY 2015-16 | |
|---|---|---|
| | MSEDCL Petition | Approved in this Order |
| One-twelfth (1/12) of amount of O&M expense | 173 | 173 |
| One-twelfth (1/12) of sum of the book value of stores, materials and supplies including fuel on hand at the end of each month of such financial year | 8 | 8 |
| Two months of expected revenue from sale of electricity at prevailing Tariff | 8,419 | 8,419 |
| Less: Amount held as security deposit | (5,557) | (5,557) |

| Particulars | FY 2015-16 | |
|---|---|---|
| | MSEDCL Petition | Approved in this Order |
| Less: One month equivalent of cost of Power Purchase | (3,975) | (3,975) |
| **Total Working Capital Requirement** | **(931)** | **(931)** |
| | | |
| Computation of working capital interest | | |
| Rate of Interest (% p.a.) | 14.75% | 14.75% |
| Interest on Working Capital (Actual) | 494 | - |
| Interest on Working Capital (Normative) | | |
| Interest on Security Deposit | | |
| Rate of Interest (% p.a.) | 7.75% | 7.75% |
| **Interest on Security Deposit** | **384** | **384** |

3.13.8. Accordingly, the IoWC and the Interest on Security Deposits from Consumers and Distribution System Users approved for FY 2015-16 is as follows:

**Table 3-44: IoWC and Interest on Security Deposit as approved by Commission FY 2015- 16 (Wires+Supply) (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| IoWC & Interest on CSD (Wires) | 238 | 249 | 246 |
| IoWC & Interest on CSD (Supply) | 453 | 878 | 384 |
| **IoWC & Interest on CSD** | **691** | **1,127** | **630** |

3.13.9. Under the MYT Regulations, 2011, IoWC expense is a controllable parameter, and any difference between the actual and the approved IoWC should be considered as efficiency gain or efficiency loss to be shared among MSEDCL and consumers in accordance with Regulation 14. The efficiency loss to the extent of the difference between the actual IoWC as per the Audited Accounts and that allowed on normative basis for FY 2015-16 has been shared accordingly. The subsequent sections detailed the sharing of gains/losses.

## 3.14. Other Finance Charges for FY 2015-16

### *MSEDCL's Submission*

3.14.1. MSEDCL submitted that it has incurred Other Finance Charges amounting to Rs.36 crores in FY 2015-16 of which the details were submitted as following.:

**Table 3-45: Other Finance Charges for FY 15-16 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Guarantee Charges | 6 | 4 |
| Finance Charges | 24 | 13 |
| Stamp Duty | 0 | 0 |
| Service Fee i.e. Fund raising charges | 2 | 19 |
| Other Interest and Charges | - | - |
| **Total Other Finance Charges** | **31** | **36** |

***Commission's Analysis and Ruling***

3.14.2. The Commission has verified the above Charges with the Audited Accounts, and found them to be in order. Hence, it has approved the Other Finance Charges as Rs.36 crore for FY 2015-16.

**Table 3-46: Other Finance Charges for FY 2015-16 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Other Finance Charges | 31 | 36 | 36 |

### 3.15. Provision for Bad Debts for FY 2015-16

***MSEDCL's Submission***

3.15.1. MSEDCL has considered the provision for Bad and Doubtful Debts based on the audited receivables for FY 2015-16 as given below:

**Table 3-47: Provision for Bad and Doubtful Debts for FY 2015-16 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Provision for Bad Debt | 258 | 405 |
| Receivables | 17,216 | 26,967 |
| % of Receivables | 1.50% | 1.50% |

3.15.2. MSEDCL submitted that out of Rs. 9,751 crore increase in trade Receivable, Rs. 4,819 crore are on account of receivable transferred from MSEB Holding Company and increase of Rs.4,932 crore are increase in receivables from LT Agriculture category consumers.

3.15.3. As reply to data gaps, MSEDCL stated that the receivables comprise of Secured & Considered good amounts to Rs.6,174 Crore and Unsecured & Considered good amounts to Rs.20,792 Crore as shown in Note 17 of the Audited Accounts.

**Table 3-48: Receivables for FY 2015-16, as per MSEDCL (Rs. crore)**

| Note No. | Particulars | As per Audited Accounts (Rs. crore) | As per Petition (Rs. crore) |
|---|---|---|---|
| Note 17 | Secured & Considered good | 6,175 | |
| Note 17 | Unsecured & Considered good | 20,793 | |
| | **Total Receivables** | **26,967** | **26,967** |

***Commission's Analysis and Ruling***

3.15.4. Regulation 78.6 and 92.9 of the MYT Regulations, 2011 provides for provision for bad and doubtful debts to be allowed to the Licensee at a level equivalent to the 1.5 percent of the of the amount shown as receivables in the audited accounts of the Distribution Licensee, respectively for its wires and supply business.

3.15.5. The Commission observed that there is significant increase in total receivable of MSEDCL in FY 2015-16 compared to previous years. MSEDCL has attributed such increase mainly on account of increase in receivables from AG consumers and on account of receivables parked with MSEDCL by MSEB holding company (MSEBHC) in FY 2015-16. As the Petitioner has mentioned FRP related transactions The Commission enquired whether the receivables parked by MSEB holding company was consequent to the FRP scheme concluded during the said year. In its response, MSEDCL clarified that the re-transfer of receivables by MSEBHC to MSEDCL has coincided with the same period as that of the financial restructuring; however MSEDCL in its reply had clarified that the re-transfer of such receivables has no relation with the FRP scheme and just that both instances has happened during the same period.

3.15.6. In addition, the Commission has also sought for the status of arrears of Agricultural consumers over the past years which was subsequently submitted by MSEDCL. On perusal, it was observed that there was significant increase in AG arrears during FY 2015-16, which was also reported in the audited accounts. The Commission has verified the numbers from the audited accounts.

3.15.7. Considering the above, the Commission has computed the provision for Bad Debts to be allowed for FY 2015-16 as per the Regulations 78.6 and 92.9 of the MYT Regulations, 2011 as shown below:

**Table 3-49: Provision for Bad Debts for FY 2015-16 as approved by Commission**

| Particulars | MSEDCL Petition | Approved in this Order |
|---|---|---|
| Receivables for the year (Rs. Crore) | 26,967 | 26,967 |
| Opening Balance of Provision of Bad and Doubtful Debt as % of Receivables | 1.50% | 1.50% |
| Provision for Bad & Doubtful Debts during the year (Rs. Crore) | 405 | 405 |

3.15.8. The provision for Bad Debts approved for FY 2015-16 is summarised as follows:

**Table 3-50: Summary of approved Provision for Bad Debts for FY 2015-16 (Rs crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Provision for Bad and Doubtful Debts | 258 | 405 | 405 |

## 3.16. Other Expenses for FY 2015-16

***MSEDCL's Submission***

3.16.1. MSEDCL has claimed 'Other Expenses' comprising expenditure on account of interest to suppliers/contractors, rebate to consumers and Other Expenses, viz. compensation for injuries to staff and outsiders. The break-up is as shown below:

**Table 3-51: Other Expenses for FY 2015-16 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Compensation for injuries, death to staff | 3 | 4 |
| Compensation for injuries, death to others | 6 | 7 |
| Loss on obsolescence of Fixed Assets & on account of natural calamities | - | 8 |
| Non Moving Items | 2 | 6 |
| Interest to Suppliers/Contractors (O&M) | 2 | 9 |
| Small and Low value written off | 0 | 0 |
| Others | 1 | 2 |
| **Total** | **14** | **36** |

***Commission's Analysis and Ruling***

3.16.2. In reply to data gaps, MSEDCL has claimed on account of loss on obsolescence of Fixed Assets and on account of natural calamities of Rs. 8 crore in FY 2015-16, and was asked for the details.

3.16.3. The Commission has verified the above Charges with the Audited Accounts, and found them to be in order. The Commission approved the Other Expenses to the extent of Rs. Rs. 28 crore for FY 2015-16. However, while doing so, certain head were disallowed, based on the principles detail in the previous Orders of the Commission.

**Table 3-52: Other Expenses for FY 2015-16 as approved by the Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Compensation for injuries, death to staff | 3 | 4 | 4 |
| Compensation for injuries, death to others | 6 | 7 | 7 |
| Loss on obsolescence of Fixed Assets & on account of natural calamities | - | 8 | - |
| Loss on sale of scrap | - | - | - |
| Intangible assets written-off | - | - | - |
| Interest on Staff Welfare Fund | - | - | - |
| Non Moving Items | 2 | 6 | 6 |
| Refund of Additional Supply Charges | - | - | - |
| Regular concession in tariff to Power loom consumers | - | - | - |
| Interest to Suppliers/Contractors (O&M) | 2 | 9 | 9 |
| Small and Low value written- off items | 0 | 0 | 0 |
| Others | 1 | 2 | 2 |
| **TOTAL** | **14** | **36** | **28** |

## 3.17. Contribution to Contingency Reserves for FY 2015-16

***MSEDCL's Submission***

3.17.1. Considering its precarious financial condition and unavailability of sufficient funds to discharge its various liabilities, MSEDCL stated that it was not feasible for MSEDCL to make any contribution to Contingency Reserves. Accordingly, it has not been claimed in the ARR of FY 2015-16.

***Commission's Analysis and Ruling***

3.17.2. Regulation 36 of the MYT Regulations, 2011 provides for appropriation to the Contingency Reserve of not less than 0.25 per cent and not more than 0.5 per cent of the original cost of Fixed Assets annually towards in the calculation of ARR. The amount is to be invested in securities authorised under the Indian Trusts Act, 1882 within six months of the close of the financial year. MSEDCL has neither provisioned for any addition in Contingency Reserve in FY 2015-16 nor planned for investment within the timelines stipulated. Accordingly, for truing-up, taking into account MSEDCL's submissions and the considerations explained, the Commission has not considered any amount towards contribution to Contingency Reserve in FY 2015-16 either.

### 3.18. Incentives and Discounts for FY 2015-16

***MSEDCL's Submission***

3.18.1. MSEDCL submits that during FY 2015-16, it has paid Rs.249.12 Crore. of incentives/discounts to the consumers for timely payment of bills as against Rs.258.40 Crore, approved by Hon'ble Commission in its MYT Order dated 3 November 2016.

**Table 3-53: Incentives and Discounts for FY 2015-16 submitted by MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Incentives/Discounts | 258 | 249 |

***Commission's Analysis and Ruling***

3.18.2. The Commission has verified the incentive/discounts from the Audited Accounts and taken the actuals as submitted by MSEDCL for FY 2015-16.

**Table 3-54: Incentives and Discounts approved for FY 2015-16 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Incentives and Discounts | 258 | 249 | 249 |

### 3.19. RLC Refund for FY 2015-16

***MSEDCL's Submission***

3.19.1. During FY 2015-16, MSEDCL has refunded Rs. 4.83 crore of Regulatory Liability Charge (RLC) as against the RLC Refund of Rs. 5 crore approved by Commission in its MYT Order.

***Commission's Analysis and Ruling***

3.19.2. The Commission asked for the year-wise break-up of RLC refund, and the remaining balance as on 1 April 2016. MSEDCL submitted the year-wise break-up as follows:

**Table 3-55: RLC Refund collected and outstanding, as submitted by MSEDCL (Rs. Crore)**

| RLC Refund | Amount (Rs. crore) |
|---|---|
| FY 08-09 | 455 |
| FY 09-10 | 639 |
| FY 10-11 | 516 |
| FY 11-12 | 419 |
| FY 12-13 | 462 |
| FY 13-14 | 402 |
| FY 14-15 | 46 |
| FY 15-16 | 5 |
| **Total** | **2,944** |
| **Balance RLC Refund** | **284** |

3.19.3. Under the Commission's directions in Order dated April 2, 2008 in Case Nos. 47 and 92 of 2007 on MSEDCL's Review Petition regarding refund of RLC, MSEDCL has to refund around Rs. 3,227 crore collected through RLC from December 2003 to September 2006.

3.19.4. The Commission has verified the RLC refund made by MSEDCL from the Audited Accounts, and considered the RLC refund as submitted by it for FY 2015-16.

**Table 3-56: RLC Refund approved by Commission for FY 2015-16 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| RLC Refund | 5 | 5 | 5 |

### 3.20. Additional Supply Charge Refund for FY 2015-16

***MSEDCL's Submission***

3.20.1. MSEDCL submitted that it has refunded Rs. 0.74 crore of ASC during FY 2015-16 as per the Audited Accounts. The remaining ASC refund may be allowed as and when

MSEDCL refunds it to eligible consumers in future.

*Commission's Analysis and Ruling*

3.20.2. The Commission has considered the ASC Refund as submitted by MSEDCL for FY 2015-16 for the purpose of truing up of such expenses during the year

**Table 3-57: ASC Refund approved by Commission for FY 2015-16 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| ASC Refund | - | 1 | 1 |

### 3.21. Net Prior Period Expenses/ (Income) for FY 2015-16

*MSEDCL's Submission*

3.21.1. MSEDCL has claimed Net Prior Period Expenses/ (Income) of Rs. (178) crore in FY 2015-16. MSEDCL submitted the break-up of this amount showing the Prior Period Expenses and Prior Period Income considered for arriving at this figure and reconciliation of the heads forming Prior Period Expenses/Income with the Audited Accounts for FY 2015-16.The break-up of Prior Period Expenses is shown below:

**Table 3-58: Net Prior Period Expenses/ (Income) submitted by MSEDCL for FY 2015-16**

| Particulars | Amount (Rs. crore) |
|---|---|
| **Income relating to Previous Year** | |
| Receipts from Consumers | 43 |
| Excess Provision for Power Purchased | 39 |
| Other Excess Provision | 167 |
| Other Income | 79 |
| **SUB TOTAL (A)** | **327** |
| **Expenses / Losses relating to Previous Year** | |
| Adjustment to Past Billing | 150 |
| **SUB TOTAL (B)** | **150** |
| **Net prior period expenditure C = (B) - (A)** | **(178)** |

*Commission's Analysis and Ruling*

3.21.2. After scrutiny of the submissions and verifying these from the Audited Accounts, the Commission has approved the Net Prior Period Income/Expense of Rs (178) crore as claimed by MSEDCL.

**Table 3-59: Net Prior Period Expenses/Income for FY 2015-16 as per Annual Accounts, claimed, and approved by the Commission (Rs. crore)**

| Particulars | As per Annual Accounts (31 March, 2016) | MSEDCL Claim | Approved in this Order |
|---|---|---|---|
| **Income relating to Previous Year** | | | |
| Receipts from Consumers | 43 | 43 | 43 |
| Interest Income | 90 | | |
| Excess Provision for Power Purchased | 39 | 39 | 39 |
| Excess Provision for Interest and Finance Charges | 20 | | |
| Other Excess Provision | 167 | 167 | 167 |
| Other Income | 79 | 79 | 79 |
| **SUB TOTAL (A)** | **438** | **327** | **327** |
| **Expenses / Losses relating to Previous Year** | | | |
| Short Provision for Power Purchase | | | |
| Adjustment to Past Billing | 150 | 150 | 150 |
| Material related Expenses | 7 | | |
| Employees Cost | 14 | | |
| Other Operating Expenses | 33 | | |
| Administrative Expenses | 13 | | |
| Interest and Other charges | 34 | | |
| **SUB TOTAL (B)** | **251** | **150** | **150** |
| **Net prior period expenditure C = (B) - (A)** | **(187)** | **(178)** | **(178)** |

## 3.22. Revenue for FY 2015-16

***MSEDCL's Submission***

3.22.1. MSEDCL submitted that it has considered the revenue for FY 2016-17 based on the Audited Accounts. MSEDCL highlighted that the Wheeling Charges (around Rs. 1 Crore), Revenue from Trading of surplus power (Rs. 211 Crore ) and income from Open Access (Rs. 678 Crore) are not included under this head as they are not part of revenue from sale of power at retail tariff. MSEDCL stated that these amounts are separately claimed in the ARR table.

**Table 3-60: Revenue for FY 2015-16 as per MSEDCL (Rs crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Revenue from Sale of Power | 54,911 | 50,517 |

***Commission's Analysis and Ruling***

3.22.2. The Commission verified the revenue from the Annual Accounts for FY 2015-16. The total revenue in FY 2015-16 was reported as Rs. 53,707 crore, which comprises revenue from sale of power of Rs. 50,517 crore, as claimed by MSEDCL. The Commission has approved the revenue from sale of power accordingly.

**Table 3-61: Revenue for FY 2015-16 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Revenue from Sale of Power | 54,911 | 50,517 | 50,517 |

### 3.23. Non-Tariff Income for FY 2015-16

***MSEDCL's Submission***

3.23.1. MSEDCL submitted that it has certain sources of Non-Tariff Income, viz. interest on arrears of consumers, DPC, interest on staff loans and advances, sale of scrap, interest on investments, rebate on power purchase, etc., Comparison of Non-Tariff Income as estimated by MSEDCL and as earlier approved by the Commission is presented in the Table below:

**Table 3-62: Non-Tariff Income as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Non-Tariff Income | 2,123 | 2,882 |

***Commission's Analysis and Ruling***

*3.23.2.* The Commission notes that break-up of non-tariff income claimed by MSEDCL is provided under Form-9 of the Petition. The same was further verified and found to be as per the Audited Accounts for FY 2015-16. It is noted that the significant increase in non-tariff income compared to that approved is mainly on account of increase in interest on dealyed payment charges which was Accordingly the Commission has approved the same for the purpose of truing up of FY 2015-16.

**Table 3-63: Non-Tariff Income for FY 2015-16, as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Non-Tariff Income | 2,123 | 2,882 | 2,882 |

### 3.24. Income from Wheeling Charges for FY 2015-16

***MSEDCL's Submission***

3.24.1. MSEDCL had an income from Wheeling Charges of Rs. 1 crore during FY 2015-16.

**Table 3-64: Income from Wheeling Charges for FY 2015-16 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Income from Wheeling Charges | 4 | 1 |

***Commission's Analysis and Ruling***

3.24.2. The Commission has verified the income from Wheeling Charges from the Audited Accounts and has considered them accordingly.

**Table 3-65: Income from Wheeling Charges approved for FY 2015-16 (Rs crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Income from Wheeling Charges | 4 | 1 | 1 |

### 3.25. Income from Open Access Charges

***MSEDCL's Submission***

3.25.1. MSEDCL submitted that it has received an income from OA Charges of Rs. 678 crore during FY 2015-16 that is Rs. 103 Crore higher than what was approved in the MYT Order. MSEDCL attributed the same to the increase in OA quantum during the year compared to previous year.

**Table 3-66: Income from Open Access Charges FY 2015-16 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Income from Open Access Charges | 576 | 678 |

***Commission's Analysis and Ruling***

3.25.2. The Commission has verified the income from Open Access Charges from the audited accounts and has allowed such income from OA Charges as submitted by MSEDCL.

**Table 3-67: Income from OA Charges approved for FY 2015-16 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Income from Open Access Charges | 576 | 678 | 678 |

## 3.26. Income from Trading Surplus Power

***MSEDCL's Submission***

3.26.1. MSEDCL submitted that it has received income of Rs.211 crore from trading of surplus power, as against Rs.189 crore earlier approved by the Commission, i.e. Rs.22 crore more than earlier approved.

3.26.2. MSEDCL further submitted the following details of month-wise surplus energy traded during FY 2015-16.

**Table 3-68: Month-wise details of actual power traded, as submitted by MSEDCL**

| Month | Exchange Sell | | Bilateral Sell (Tenders) | |
|---|---|---|---|---|
| | MU | Rate/Unit | MU | Rate/Unit |
| Apr-15 | 26.98 | 2.31 | 0 | 0 |
| May-15 | 12.68 | 1.93 | 0 | 0 |
| Jun-15 | 79.58 | 1.71 | 1.51 | 3.15 |
| Jul-15 | 17.52 | 1.75 | 2.36 | 3.15 |
| Aug-15 | 36.36 | 1.99 | 2.24 | 3.15 |
| Sep-15 | 139.39 | 2.82 | 2.3 | 3.15 |
| Oct-15 | 18.48 | 2.77 | 2.28 | 3.15 |
| Nov-15 | 46.65 | 2.09 | 1.96 | 3.15 |
| Dec-15 | 207.77 | 2.05 | 1.99 | 3.15 |
| Jan-16 | 175.21 | 1.75 | 1.89 | 3.15 |
| Feb-16 | 73.38 | 0 | 2.08 | 3.15 |
| Mar-16 | 43.38 | 2.23 | 2.48 | 3.15 |
| **Total** | **877.38** | **2.08** | **21.09** | **3.15** |
| | | | | |
| **Grand Total (Exchange +Bilateral Sell)** | **898.47** | **2.1** | | |

***Commission's Analysis and Ruling***

3.26.3. The Commission upon verification of the audited accounts has considered the income from trading of surplus power as submitted by MSEDCL for the purpose of truing up of ARR of FY 2015-16.

**Table 3-69: Income from Trading Surplus for FY 2015-16 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Income from Trading Surplus | 189 | 211 | 211 |

## 3.27. Sharing of Efficiency Gains and Losses for FY 2015-16

***MSEDCL's Submission***

3.27.1. MSEDCL has considered the expense and revenue heads for FY 2015-16 taking the actual amounts as per the Audited Accounts. However, parameters such as O&M Expenses and IoWC, for which specific norms have been specified in the MYT Regulations, have been calculated on normative basis.

3.27.2. O&M Expenditure:

The actual O&M expenses as per the Audited Accounts for FY 2015-16 are lower than allowed on normative basis.

**Table 3-70: O&M Expenses Approved vs. Actual as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | FY 2015-16 Actual | Gain/ (Loss) | 2/3 of Efficiency Gains/ Losses retained by MSEDCL | 1/3 of Efficiency Gains/losses passed on to Consumers |
|---|---|---|---|---|---|
| O&M Expenses | 6,842 | 5,418 | 1,424 | 950 | 475 |

3.27.3. Interest on Working Capital:

IoWC expenses as per the Audited Accounts are higher than allowed on normative basis.

**Table 3-71: Interest on Working Capital Approved vs. Actual as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | FY 2015-16 Actual | Gain/ (Loss) | 2/3 of Efficiency Gains/ Losses retained by MSEDCL | 1/3 of Efficiency Gains/losses passed on to consumer |
|---|---|---|---|---|---|
| IoWC | 221 | 695 | (474) | (316) | (158) |

3.27.4. Distribution Loss:

The actual distribution loss in FY 2015-16 is 14.51% against a target of 13.50% set by the Hon'ble Commission in Case No. 48 of 2016. This efficiency loss has to be shared between MSEDCL and the consumers in accordance with the MERC (MYT) Regulations, 2011. Accordingly, MSEDCL has calculated the efficiency loss due to under-achievement of distribution loss reduction based on the actual average-billing rate of MSEDCL (per the methodology adopted by Hon'ble Commission) in FY 2015-16.

**Table 3-72: Efficiency Loss due to higher Distribution Loss in FY 2015-16 as per MSEDCL**

| Particulars | Unit | Amount (Rs. crore) |
|---|---|---|
| Normative Distribution Losses | % | 13.50% |
| Actual Distribution Losses | % | 14.29% |
| Actual energy input | MU | 1,15,076 |
| Normative sales | MU | 99,541 |
| Actual sales MU | MU | 98,383 |
| Additional/ (lower) sales due to lower Distribution Loss | MU | (1,158) |
| Average Billing Rate | Rs/ kWh | 5 |
| Additional/ (lower) revenue due to higher Distribution Loss | Rs. crore | (599) |
| Efficiency Loss to be retained by MSEDCL | Rs. crore | (399) |
| Efficiency Loss passed on to consumers | Rs. crore | (200) |

3.27.5. The net impact of sharing of gains and losses is a reduction in the ARR by Rs.716 Crore. The total impact of sharing of gains and losses of various components is summarised in the following Table.

**Table 3-73: Net Impact of sharing of gains and losses FY 2015-16**

| Particulars | Amount (Rs. Cr) |
|---|---|
| O&M Expenses | (475) |
| Interest on Working Capital | 158 |
| Revenue due to Distribution Loss | (399) |
| **Total** | **(716)** |

***Commission's Analysis and Ruling***

3.27.6. Regulations 12, 13 and 14 of the MYT Regulations, 2011 specify the controllable and uncontrollable parameters, mechanism of pass-through of gains and losses on account of uncontrollable parameters, and the mechanism for their sharing on account of controllable parameters as follows:

> *"14.1 The approved aggregate gain to the Generating Company or Transmission Licensee or Distribution Licensee on account of controllable factors shall be dealt with in the following manner:*
> *(a) One-third of the amount of such gain shall be passed on as a rebate in tariff over such period as may be stipulated in the Order of the Commission under Regulation 11.6;*
> *(b) The balance amount, which will amount to two-third of such gain, may be utilised at the discretion of the Generating Company or Transmission Licensee or Distribution Licensee.*
> *14.2 The approved aggregate loss to the Generating Company or Transmission Licensee or Distribution Licensee on account of controllable factors shall be dealt with in the following manner:*
> *(a) One-3rd of the amount of such loss may be passed on as an additional charge in tariff over such period as may be stipulated in the Order of the Commission under Regulation 11.6; and*
> *(b) The balance amount of loss shall be absorbed by the Generating Company or Transmission Licensee or Distribution Licensee.*
> *14.3 Gains and losses on account of controllable factors during the 2nd Control Period shall be shared with the consumers at the time of Mid-term Performance Review and also at the time of tariff determination process of the Third Control Period."*

3.27.7. As per the MYT Regulations 2011, One-third of the efficiency gain/ (loss) has been passed on to consumers and two-thirds allowed to be retained by MSEDCL. The summary of sharing of efficiency gains/(loss) on account of O&M Expenses, IoWC and Distribution Loss as approved by the Commission are shown in the Tables below:

**Table 3-74: Sharing of Gains/Loss on O&M and IoWC Expenses, approved by Commission (Rs. crore)**

| Particulars | Approved in this Order | FY 2015-16 Actual | Gains/ (Loss) | 2/3 of Efficiency gains/Losses | 1/3 of Efficiency Gains/Losses | Net Entitlement after sharing |
|---|---|---|---|---|---|---|
| O&M Expenses | 6,792 | 5,418 | 1,374 | 916 | 458 | 6,334 |
| IoWC | 198 | 695 | (497) | (331) | (166) | 364 |

**Table 3-75: Sharing of Gains/Loss on Distribution losses, approved by Commission (Rs. crore)**

| Particulars | Approved in this Order |
|---|---|
| MTR Approved Distribution Loss Trajectory | 14.29% |
| MYT approved Loss Trajectory | 13.50% |
| Projected Total Sales | 92,024 |
| Intra STS loss (Approved) | 3.92% |
| Power Requirement at Ex-Bus Periphery (Actual) | 111,746 |
| Power Requirement at Ex-Bus Periphery (Normative) | 110,727 |
| Additional/ (lower) Power purchase due to higher distribution loss | 1,019 |
| Marginal Variable Cost of Power Purchase | 4.05 |
| Additional Power purchase Cost due to higher distribution loss | 412 |
| Efficiency Loss to be retained by MSEDCL | 275 |
| Efficiency Loss to be borne by the consumers | 137 |

## 3.28. Segregation of Wires and Supply ARR

3.28.1. In its Business Plan Order dated 26 August 2013 (Case No. 134 of 2012), the Commission approved the percentage segregation of the ARR into Wires Business and Supply Business. MSEDCL has considered the same in the present Petition. The Allocation Matrix is reproduced in the following Table. Based on this, MSEDCL has presented the Wires and Supply ARRs for FY 2015-16. As elaborated in earlier paragraphs, the Commission has undertaken a component-wise analysis of the respective ARRs in accordance with the Regulations, and has approved them as set out in the subsequent paragraphs.

**Table 3-76: Ratio of allocation of expenses to Wires and Supply Businesses**

| Sl.No. | Particulars | Wires Business | Supply Business |
|---|---|---|---|
| 1. | Power purchase expenses – Fixed Charges | 5% | 95% |
| 2. | Power purchase expenses – Variable Charges | 0% | 100% |
| 3. | Employee expenses | 75% | 25% |
| 4. | Administration and General expenses | 75% | 25% |
| 5. | Repair and Maintenance expenses | 95% | 5% |
| 6. | Depreciation | 90% | 10% |
| 7. | Interest on long-term loan capital | 90% | 10% |
| 8. | Interest on Working Capital | 100% | 0% |
| 9. | Other Finance Charges | 90% | 10% |
| 10. | Provision for Bad Debts | 10% | 90% |
| 11. | Other Expenses | 0% | 100% |
| 12. | Income Tax | 90% | 10% |
| 13. | Transmission Charges paid to Transmission Licensee | 0% | 100% |
| 14. | Contribution to Contingency Reserves | 90% | 10% |
| 15. | Incentives and discounts | 0% | 100% |
| 16. | Return on equity capital | 90% | 10% |
| 17. | Non-Tariff Income | 0% | 100% |
| 18. | Income from Wheeling Charges | 90% | 10% |

### 3.29. Aggregate Revenue Requirement for FY 2015-16

3.29.1. Based on the analysis, the summary of ARR for the Wires Business and Supply Business, as claimed by MSEDCL and as trued-up by the Commission, for FY 2015-16 is presented in the Tables below.

**Table 3-77: ARR for Wires Business for FY 2015-16 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Operation & Maintenance Expenses | 4,527 | 4,760 | 4,711 |
| Depreciation | 1,671 | 1,688 | 1,671 |
| Interest on Loan Capital | 1,541 | 1,530 | 1,531 |
| Interest on Working Capital | 191 | 202 | 198 |
| Interest on Deposits from Consumers and Distribution System Users | 47 | 48 | 48 |
| Other Finance Charges | 28 | 32 | 32 |
| Provision for Bad and Doubtful Debts | 26 | 40 | 40 |
| **Total Revenue Expenditure** | **8,032** | **8,301** | **8,232** |

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Return on Equity Capital | 1,351 | 1,475 | 1,415 |
| **Aggregate Revenue Requirement** | **9,383** | **9,776** | **9,646** |
| Less: | | | |
| Income from Wheeling Charges | 4 | 1 | 1 |
| Income from Open Access Charges | 576 | 678 | 678 |
| **Aggregate Revenue Requirement from Distribution Wires** | **8,803** | **9,097** | **8,967** |

**Table 3-78: ARR for Supply Business for FY 2015-16 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Power Purchase Expenses (incl. Inter-State Transmission Charges) | 44,034 | 43,626 | 43,626 |
| Operation & Maintenance Expenses | 2,005 | 2,082 | 2,081 |
| Depreciation | 186 | 188 | 186 |
| Interest on Loan Capital | 171 | 170 | 170 |
| Interest on Working Capital | 30 | 494 | 0 |
| Interest on Deposits from Consumers and Distribution System Users | 423 | 384 | 384 |
| Other Finance Charges | 3 | 4 | 4 |
| Provision for Bad and Doubtful Debts | 232 | 364 | 364 |
| Other Expenses | 14 | 36 | 28 |
| Intra-State Transmission Charges, incl. MSLDC Fees & Charges | 4,070 | 4,070 | 4,070 |
| Incentives/Discounts | 258 | 249 | 249 |
| Prior Period Expenses | 0 | (178) | (178) |
| DSM expenses | 8 | 0 | 0 |
| **Total Revenue Expenditure** | **51,436** | **51,489** | **50,984** |
| Return on Equity Capital | 169 | 185 | 157 |
| **Aggregate Revenue Requirement** | **51,606** | **51,674** | **51,141** |
| RLC refund | 5 | 5 | 5 |
| ASC refund | 0 | 1 | 1 |
| Less: | | | |
| Non-Tariff Income | 2,123 | 2,882 | 2,882 |
| Amount of Compensation Paid | 0.12 | (0.12) | (0.12) |
| **Aggregate Revenue Requirement from Retail Supply** | **49,488** | **48,797** | **48,265** |

**Table 3-79: ARR for FY 2015-16 (Wires + Supply) as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Power Purchase Expenses | 44,034 | 43,626 | 43,626 |
| Operation & Maintenance Expenses | 6,533 | 6,842 | 6,792 |
| Depreciation Expenses | 1,857 | 1,876 | 1,856 |
| Interest on Loan Capital | 1,712 | 1,700 | 1,701 |
| Interest on Working Capital | 221 | 695 | 198 |
| Interest on Deposits from Consumers and Distribution System Users | 470 | 432 | 432 |
| Other Finance Charges | 31 | 36 | 36 |
| Provision for Bad and Doubtful Debts | 258 | 405 | 405 |
| Other Expenses | 14 | 36 | 28 |
| Intra-State Transmission Charges and MSLDC Charges | 4,070 | 4,070 | 4,070 |
| Incentives/Discounts | 258 | 249 | 249 |
| Prior Period Expenses | 0 | (178) | (178) |
| DSM expenses | 8 | 0 | 0 |
| **Total Revenue Expenditure** | **59,468** | **59,790** | **59,216** |
| Return on Equity Capital | 1,521 | 1,661 | 1,572 |
| **Aggregate Revenue Requirement** | **60,989** | **61,450** | **60,788** |
| RLC refund | 5 | 5 | 5 |
| ASC refund | 0 | 1 | 1 |
| Effect of Provisional sharing of gains/losses | (2,286) | (716) | (567) |
| Less: | | | |
| Non-Tariff Income | 2,123 | 2,882 | 2,882 |
| Income from Wheeling Charges | 4 | 1 | 1 |
| Income from Open Access Charges | 576 | 678 | 678 |
| Amount of compensation paid to consumers | (0.12) | (0.12) | (0.12) |
| **Aggregate Revenue Requirement from Retail Tariff** | **56,004** | **57,178** | **56,665** |
| Revenue from Sale of Power | 54,911 | 50,517 | 50,517 |
| Income from Trading of Surplus Power | 189 | 211 | 211 |
| Past Period Adjustment by Commission | (1,011) | (1,011) | (1,011) |
| **Revenue Gap/(Surplus)** | **(107)** | **5,439** | **4,925** |

# 4. TRUE-UP OF FY 2016-17

## 4.1. Background

4.1.1. MSEDCL has sought Truing-up of the ARR for FY 2016-17 considering actual expenditure and revenue as per the Audited Accounts and in accordance with the MYT

Regulations, 2015. It has submitted reasons for differences between the actual expenses for FY 2016-17 as compared to those approved in the MYT Order.

4.1.2. The analysis underlying the Commission's approval for true-up of FY2016-17 is set out in the following Sections.

## 4.2. Sales in FY 2016-17

**MSEDCL's Submission**

4.2.1. MSEDCL has submitted category wise actual sales for FY 2016-17 excluding all distribution franchisee in the following table:

**Table 4-1: Category wise sales for FY 2016-17**

| Category | MYT Order | Actual | Deviation |
|---|---|---|---|
| Residential | 19,174 | 18,056 | (1,118) |
| Commercial | 6,648 | 6,201 | (447) |
| HT-Industries | 23,629 | 22,874 | (755) |
| LT-Industries | 6,606 | 6,419 | (187) |
| PWW | 2,149 | 2,062 | (87) |
| Street Light | 1,776 | 1,695 | (81) |
| Agriculture | 25,132 | 28,561 | 3,429 |
| Public Services | 1,316 | 1,294 | (22) |
| Railways | 77 | 17 | (60) |
| Others | 351 | 418 | 67 |
| **Total** | **86,858** | **87,597** | **738** |

4.2.2. MSEDCL has submitted that the Commission approved sales (excl. DF) of 86,858 MUs. However, the actual sales (excl. DF) are 87,596 MUs i.e. additional sale of 738 MUs.

4.2.3. MSEDCL has submitted that the sale to all the major categories, except Agriculture, are lower than that approved by the Commission. MSEDCL further submitted that the reduction in HT Industrial and Commercial sales is due to increased open access. While the actual growth of LT residential category is only 4%, the Commission had considered 8% growth rate. MSEDCL has reasoned that energy conservation and energy efficiency measures viz. use of LED bulbs, star rated devices, solar water heaters etc. by residential consumers might have impacted energy consumption.

4.2.4. MSEDCL has highlighted the following major reasons for deviation of actual sales of LT AG Category as compared to that approved by the Commission:

4.2.5. In the MYT Order the Commission had approved the No. of Consumers, Connected Load and AG Sales for 3rd control period where in the no. of consumers approved was 41.65 Lakhs and the connected load approved was 200 Lakhs HP for FY 2016-17. However, while allowing the growth of around 2 Lakhs consumers, the corresponding increase in connected load was allowed to the extent of 0.38 Lakh HP only. MSEDCL has stated that the connected load has not increased corresponding to increase in number of consumers. In case of unmetered consumer category, the connected load has reduced by ~5 HP per consumer corresponding to the reduction in the number of consumers. However, for metered category, the increase in connected load is extremely low only at ~2.5 HP per consumer corresponding to their increase in number of consumers.

4.2.6. MSEDCL has contended that if the HP per consumer for FY 2015-16 approved by the Commission had been applied for FY 2016-17, the approved LT AG sales for FY 2016-17 should have been 25,277 MUs.

4.2.7. Further, MSEDCL has submitted that though there was good rainfall in FY 2016-17, there was also prolonged dry spell in the month July/August 17. In order to facilitate irrigation of the standing crop, MSEDCL had provided 12 Hrs supply to the AG Category consumers from Sept 16 to Dec 16. (From 8th September to 15th September, and from 21st November to 15th December 2016). MSEDCL has further submitted that this has contributed to rise in AG sales by additional 1,798 MUs.

4.2.8. MSEDCL has submitted that the revision in approved sales for FY 2016-17 is on account of correction in error, increased supply hours during September 16 to December 16, and good rainfall. MSEDCL has humbly requested to approve the LT AG sales for FY 2016-17 as submitted in the Petition.

**Commission's Analysis and Rulings**

4.2.9. The major variation in actual sales compared to sales approved in MYT order is in the Agricultural, Residential and Industrial Categories. As regards the Agriculture Category, the Commission has re-estimated the AG Index (kWh/HP/Annum) based on circle wise feeder level data provided by MSEDCL for FY 2016-17. The rationale and methodology for estimation of AG index has been elaborated in the earlier chapter of this Order. Accordingly, the following table summarises MSEDCL's submission and the approved figures of AG Energy Sales, consumers, connected load and AG indices for FY 2016-17.

**Table 4-2: AG Sales for FY 2016-17, as approved by Commission**

| Particulars | MSEDCL Petition | Approved in this Order |
|---|---|---|
| **No. of Consumers (In lakh)*** | | |
| Un-Metered | 15.4 | 15.41 |
| Metered | 25.38 | 24.65 |
| **Total** | **40.78** | **40.06** |
| **Connected Load (in lakh HP)*** | | |
| Un-Metered | 78.32 | 78.27 |
| Metered | 127.02 | 127.19 |
| **Total** | **205.34** | **205.46** |
| **Energy Sales (MU)** | | |
| Un-Metered | 11,977 | 10,112 |
| Metered | 15,436 | 15,421 |
| **Total** | **27,413** | **25,533** |
| **AG Index (kWh/HP/Annum)** | | |
| Un-Metered | 1,529 | 1,292 |
| Metered | 1,215 | 1,212 |
| **Total** | **1,335** | **1,243** |
| **AG Index (Hours/Annum)** | | |
| Un-Metered | 2,050 | 1,732 |
| Metered | 1,629 | 1,625 |
| **Total** | **1,790** | **1,666** |

*Approved figures of No. of consumers and connected load are as per additional submissions of MSEDCL

4.2.10. Considering the above revision in the approved Agricultural sales, the approved total sales for MSEDCL have been revised as shown in the Table below:

**Table 4-3: Sales approved by Commission (MUs)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| **HT Sales** | | | |
| HT Sales - MSEDCL | 29,749 | 28,598 | 28,598 |
| **LT Sales** | | | |

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| LT Sales - Excluding AG Sales | 33,021 | 31,481 | 31,481 |
| LT Sales - AG Sales | 24,088 | 27,517 | 27,574 |
| **MSEDCL Sales(HT and LT)** | **86,858** | **87,596** | **87,653** |
| Energy Sales in DF Areas | 4,371 | 4,079 | 4,079 |
| HT Sales - Open Access (Conventional) | 6,165 | 7,219 | 7,219 |
| HT Sales - RE Open Access and HT Credit | 420 | 770 | 770 |
| **Total Energy Sales (including DF Areas, Open Access and Credit Sales)** | **97,814** | **99,664** | **99,726** |

## 4.3. Energy Balance for FY 2016-17

**MSEDCL's Submission**

4.3.1. For calculating energy balance of MSEDCL as a whole, the sale to the consumers within the Distribution Franchisee area has also been considered. Therefore, energy available for sale for FY 2016-17 is computed as below:

**Table 4-4: Energy Available for Sales for FY 2016-17 as submitted by MSEDCL (MU)**

| Particulars | FY 2016-17 (Approved) | FY 2016-17 (Actual) |
|---|---|---|
| Energy Sales by MSEDCL for FY 2016-17 | 86,858 | 87,596 |
| Add: Category wise sales in DF area | 4,371 | 4,079 |
| Less: PD Consumers | - | -5 |
| Add: OA Sales (Conventional) | 6,165 | 7,219 |
| Add: Renewable OA | 420 | 770 |
| **Total Energy sales MSEDCL** | **97,814** | **99,659** |

4.3.2. MSEDCL submitted that MSEDCL is procuring power from various Sources including MSPGCL, CGS including nuclear power plants, Traders, IPPs, CPP and Renewable Sources. It would be very difficult to differentiate which power is coming from which source at Transmission periphery. Hence, an average inter-state loss for the whole year is considered for power sourced from outside the State of Maharashtra. The said loss is calculated in Energy Balance only.

4.3.3. MSEDCL also submitted that data of metered energy is available at 3 points: at bus-bar of the generating station, at T <> D interface i.e. at Distribution Periphery and sales at consumer end. MSEDCL further stated that to calculate Distribution Loss, it considered metered energy at Distribution periphery and sales at consumer end.

4.3.4. MSEDCL further submitted that the TAPS (NPCIL) and EMCO Power Plants are connected to CTU and therefore are considered as Inter-State sources, which earlier were taken as Intra-State sources.

4.3.5. With reference to the justification of the ‘Surplus Energy Traded’ given, MSEDCL submitted that for FY 2016-17, it has considered the actual figures. The quantum of 1244 MUs shown under ‘Surplus Energy Traded’ is the actual energy traded by MSEDCL during FY 2016-17.

4.3.6. MSEDCL submitted that the FBSM has not been finalized by SLDC after May 2016 and as per latest data available, UI for FY 2016-17 has been considered as -1393 MU. MSEDCL further submits that FBSM is an Inter-Utility settlement and therefore, finalization of FBSM shall result into revision in the Inter-Utility quantum, resulting into modification of Transmission Loss of the Intra State Distribution Licensees. Further, in view of the average weekly losses notified by WRLDC, it will be appropriate to consider the same while calculating the energy balance. Therefore, MSEDCL has considered the average of transmission losses for 52 weeks provided by WRLDC as on March 30, 2017 as the Inter State Transmission Loss and the impact of FBSM in the revised Energy Balance.

4.3.7. Accordingly, MSEDCL submitted the Energy Balance considering above submissions. MSEDCL also submitted that due to pending FBSM, the energy balance is not showing the correct picture and will change when FBSM is finalized by SLDC in due course. MSEDCL requested the Commission to direct SLDC to finalize the FBSM on regular basis so the exact impact of the quantum as well as cost can be considered in Tariff Petitions.

4.3.8. Considering the inter-state transmission losses at 3.66% as per the justification given above, MSEDCL has derived Intra-State losses as power purchase, sales and energy at Distribution Periphery all are metered figures.

4.3.9. MSEDCL further submitted that while calculating the Distribution Loss, it considered the voltage- wise sales. MSEDCL submitted the following Energy Balance for FY 2016-17 considering above submissions.

**Table 4-5: Energy Balance for FY 2016-17 as submitted by MSEDCL**

| Particulars | Units | FY 2016-17 (Approved) | FY 2016-17 (Actual) |
|---|---|---|---|
| LT sales | MUs | 60,624 | 62,275 |
| HT sales | MUs | 24,524 | 23,865 |
| Renewable Open Access | MUs | 420 | 770 |
| Sales to Open Access Consumers (Conventional) | MUs | 6,165 | 7,219 |
| **Total Sales to Consumers** | **MUs** | **91,733** | **94,128** |
| Distribution Loss | % | 17.76% | 15.40% |
| Distribution Loss | MUs | 18,872 | 17,139 |
| **Total Energy Available for Sale at 33kV** | **MUs** | **1,10,604** | **1,11,268** |
| Energy injected and drawn at 33kV | MUs | 458 | 494 |
| **Net Energy Available for Sale at 33kV** | **MUs** | **1,10,146** | **1,10,773** |
| EHV Sales | MUs | 6,081 | 5,533 |
| **Net Energy requirement at T<>D Periphery** | **MUs** | **1,16,227** | **1,16,306** |
| Intra-State Transmission Loss | % | 3.92% | 4.29% |
| Intra-State Transmission Loss | MUs | 4,742 | 5,218 |
| **Energy Requirement at G<>T Periphery** | **MUs** | **1,20,969** | **1,21,524** |
| Less: Input for OA consumption | MUs | (6,826) | (7,680) |
| Power Traded | MUs | - | 1,244 |
| **Net Energy Requirement at G<>T Periphery** | **MUs** | **1,14,143** | **1,15,088** |
| Power Purchase Quantum from Intra-State sources | MUs | 81,573 | 76,728 |
| Power Purchase Quantum from Inter-State sources at MS Periphery | MUs | 32,570 | 38,359 |
| Inter-State Losses | % | 3.66% | 3.66% |
| Power Purchase Quantum from Inter-State sources | MUs | 33,807 | 39,815 |
| **Total Power Purchase Quantum payable** | **MUs** | **1,15,380** | **1,16,543** |

4.3.10. In view of the above submissions, MSEDCL requested the Commission to approve the Energy Balance as submitted above.

### Commission's Analysis and Ruling

4.3.11. The Commission notes that the Energy Balance submitted by MSEDCL for FY 2016-17 is as per the format F1.4 approved for third MYT Control period, in which Distribution Loss has been estimated excluding EHV sales.

4.3.12. MSEDCL has submitted the source wise details of the Open Access Sales(Conventional) for FY 2016-17 based on the query raised in the data gaps. The summation of the Open Access Sales for FY 2016-17 works out to 7994 MU against the claim of 7989 MU. Hence, the Commission considers the 7994 MU as Open Access Sales (Conventional), as submitted by MSEDCL in its latest reply.

4.3.13. Based on the revised estimate of LT Sales by the Commission as approved in this Order, the approved sales including the DF sales, OA sale and PD consumers as available for the Energy Balance of FY 2016-17 are as shown below:

**Table 4-6: Energy Sales for Energy Balance of FY 2016-17 as approved by Commission (MU)**

<table>
<tr><th>Particulars</th><th>MYT Order</th><th>MTR Petition</th><th>Approved in this Order</th></tr>
<tr><td>Energy Sales by MSEDCL for FY 2016-17</td><td>86,858</td><td>87,596</td><td rowspan="3">91,732</td></tr>
<tr><td>Add: Category wise sales in DF area</td><td>4,371</td><td>4,079</td></tr>
<tr><td>Less: PD Consumers</td><td>-</td><td>-5</td></tr>
<tr><td>Add: OA Sales (Conventional)</td><td>6,165</td><td>7,219</td><td>7,224</td></tr>
<tr><td>Add: Renewable OA</td><td>420</td><td>770</td><td>770</td></tr>
<tr><td>Total Energy sales MSEDCL</td><td>97,814</td><td>99,659</td><td>99,726</td></tr>
</table>

4.3.14. The Commission notes that the difference in the Energy Balance claimed by MSEDCL and that approved by the Commission in the MYT Order is mainly on account of the difference in LT Sales approved by the Commission in the MYT Order vis-à-vis that claimed by MSEDCL as part of the total Energy Sales.

4.3.15. The Commission has presently considered amount of energy injected and drawn at 33 kV as submitted by MSEDCL, for the purpose of revised Energy Balance for FY 2015-16.

4.3.16. The Commission has considered the InSTS loss of 3.63% for FY 2016-17 which is the actual intra-State transmission losses as per SLDC for FY 2016-17.

4.3.17. MSEDCL has submitted that during the last 1-2 years due to various reasons, the RE Generators injected the renewable energy without EPA. MSEDCL was executing wind EPAs with the wind generators commissioned in the FY 2014-15 and FY 2015-16 from the date of commissioning of the projects. Hence, the energy injected into the grid by these wind generators in FY 2016-17 is 933.085 MUs. The Commission has considered the energy injected into the grid for the purpose of energy balance for FY 2016-17.

4.3.18. MSEDCL was asked to submit the month-wise details of the surplus energy traded for FY 2016-17 in terms of Quantum, Average rates and mode of sell, i.e., through Exchange or Bilateral. Based on the data submitted by MSEDCL, the Commission had considered 1240.42 MU of surplus energy traded against the petitioned value of 1243.53 MU for FY 2016-17.

4.3.19. MSEDCL further confirmed that the energy at Distribution Periphery shown as injected and drawn at 33 kV in its energy balance workings is renewable energy and is already a part of RE power considered in Form 2 (Power purchase expense). Hence, for the purpose of Energy Balance, the Commission has deducted the RE power, in arriving at Total power quantum handled at G<>T periphery (Sr. No.16 of Energy Balance table shown below), as the RE component is shown separately (Sr. No. 24 of Energy Balance table shown below).

4.3.20. The Distribution Losses arrived at in the Energy Balance are consequent to the above changes.

**Table 4-7: Energy Balance for FY 2016-17 as approved by the Commission**

| Sr. No. | Particulars | Calculation | UoM | FY 2016-17 | | |
|---|---|---|---|---|---|---|
| | | | | MYT Order | MTR Petition | Approved in this Order |
| 1 | Agriculture Sales (Including D.F) | a | MU | 60,624 | 62,275 | 27,582 |
| 2 | LT Sales excluding Agriculture Sales (Including D.F) | b | MU | | | 34,750 |
| 3 | HT Sales excluding EHV level sales (Including D.F) | c | MU | 24,524 | 23,865 | 23,920 |
| **4** | **Total Sales including D.F (Excluding EHV Sales)** | **d=a+b+c** | **MU** | **85,148** | **86,139** | **86,252** |
| 5 | OA Sales (Renewables) | e | MU | 420 | 770 | 770 |
| 6 | OA Sales (Conventional) | f | MU | 6,165 | 7,219 | 7,229 |
| **7** | **Retail Energy Sale to Consumers (Excluding EHV Sales)** | **A=d+e+f** | **MU** | **91,733** | **94,128** | **94,251** |
| | | | | | | |
| **8** | **Total Power Purchase** | **B=g+h** | **MU** | **1,15,838** | **1,16,104** | **1,16,104** |
| 9 | Power Purchase Quantum from Intra-State sources | g | MU | 82,031 | 76,290 | 76,290 |

| Sr. No. | Particulars | Calculation | UoM | FY 2016-17 | | |
|---|---|---|---|---|---|---|
| | | | | MYT Order | MTR Petition | Approved in this Order |
| 10 | Power Purchase Quantum from Inter-State sources | h | MU | 33,807 | 39,815 | 39,815 |
| **11** | **Inter-State Losses** | **i** | **%** | **3.66%** | **3.66%** | **3.66%** |
| 12 | Power Purchase Quantum from Inter-State sources at MS Periphery | j=h*(1-i) | MU | 32,570 | 38,359 | 38,359 |
| **13** | **Power Quantum handled at Maharashtra Periphery** | **k=g+j** | **MU** | **1,14,601** | **1,14,649** | **1,14,649** |
| | | | | | | |
| 14 | Infirm Non-PPA Wind Power | l | MU | - | 933 | 933 |
| 15 | Input for OA Consumption | m=f/(1-6%) | MU | 6,826 | 7,680 | 7,691 |
| **16** | **Total Power Purchase Quantum Handled** | **n=k+l+m-v** | **MU** | **1,20,969** | **1,22,767** | **1,22,778** |
| 17 | Surplus Power Traded | o | MU | - | 1,244 | 1,240 |
| **18** | **Energy Requirement at G<>T Periphery** | **p=n-o** | **MU** | **1,20,969** | **1,21,524** | **1,21,538** |
| | | | | | | |
| **19** | **Intra-State Transmission Loss** | **q** | **%** | **3.92%** | **4.29%** | **3.63%** |
| **20** | Intra-State Transmission Loss | r=p*q | MU | 4,742 | 5,218 | 4,412 |
| 21 | Net Energy requirement at T<>D Periphery | s=p-r | MU | 1,16,227 | 1,16,306 | 1,17,126 |
| 22 | EHV Sales | t | MU | 6,081 | 5,533 | 5,480 |
| 23 | Net Energy Available for Sale at 33kV | u=s-t | MU | 1,10,146 | 1,10,773 | 1,11,646 |
| 24 | Energy injected and drawn at 33kV | v | MU | 458 | 494 | 494 |
| **25** | **Total Energy Available for Sale at 33kV** | **C=u+v** | **MU** | 1,10,604 | 1,11,268 | 1,12,140 |
| | | | | | | |
| 26 | **Distribution Loss** | D=C-A | MU | **18,872** | **17,139** | **17,889** |
| 27 | **Distribution Loss** | **E=D/C** | **%** | **17.76%** | **15.40%** | **15.95%** |

### 4.4. Distribution Loss in FY 2016-17

**MSEDCL's Submission**

4.4.1. In MYT Order dated 3rd November 2016 in Case No. 48 of 2016, the Commission has approved distribution loss of 17.76% (excluding EHV Sales). The actual distribution loss of MSEDCL for FY 2016-17 is 15.40%, which is 2.36% less than the level of Distribution Losses approved by the Commission.

**Table 4-8: Distribution Loss for FY 16-17 as submitted by MSEDCL**

| Particulars | MYT | Actual | Deviation |
|---|---|---|---|
| Distribution Loss | 17.76% | 15.40% | -2.36% |

4.4.2. MSEDCL has endeavoured for taking Distribution Losses to the lowest possible level. MSEDCL has achieved a significant reduction in distribution losses during recent years. These efforts shall continue and will be enhanced. However, loss reduction is a slow process and becomes increasingly difficult as the loss levels come down. The reduction in HT Sales and increase in LT sales has also affected the distribution losses. MSEDCL requested the Commission to approve the actual Distribution Loss.

**Commission's Analysis and Ruling**

4.4.3. The Commission had stipulated the trajectory for reduction of Distribution Loss in its MYT Order for third control period in Case No. 48 of 2016. Based on the revised formats and methodology for computation of Distribution Loss by considering the sales at the distribution periphery excluding EHV sales, the Distribution Loss level stipulated for FY 2016-17 was 17.76%. That formed the basis for estimated approval of the Energy Balance in the MYT Order for that year. However, MSEDCL now has submitted a Distribution Loss level of 15.40% for FY 2016-17, which is lower than the estimated target.

4.4.4. The Commission has now approved revised Energy Sales of 99,726 MU for FY 2016-17 against the claim of 99,659 MU. Based on this, the approved Distribution Loss for FY 2016-17 is as shown in the Table below:

**Table 4-9: Distribution Loss for FY 2016-17 as approved by the Commission**

| Particulars | MYT Order | MTR Petition | Approved in this Order |
|---|---|---|---|
| Distribution Loss | 17.76% | 15.40% | 15.95% |

## 4.5. Power Purchase Expenses for FY 2016-17

**MSEDCL's Submission**

4.5.1. Following table summarizes the source wise power purchase done by MSEDCL during the FY 2016-17.

**Table 4-10: Source wise Power Purchase for FY 2016-17 as submitted by MSEDCL**

| Source | MERC Approved | | MSEDCL Actual | | Deviation (Rs. Crs) |
|---|---|---|---|---|---|
| | Quantum (MUs) | Cost (Rs. Crs) | Quantum (MUs) | Cost (Rs. Crs) | |
| MSPGCL | 39,965 | 15,950 | 46,796 | 16,458 | 508 |
| NTPC | 26,208 | 6,871 | 27,412 | 8,376 | 1,505 |
| NPCIL | 5,471 | 1,319 | 4,210 | 1,052 | (267) |
| SSP | 1,210 | 249 | 845 | 173 | (75) |
| Pench | 136 | 28 | 115 | 24 | (4) |
| Dodson | 116 | 27 | 69 | 24 | (3) |
| JSW | 1,934 | 510 | 1,742 | 452 | (58) |
| CGPL | 5,158 | 1,212 | 5,149 | 1,235 | 22 |
| Adani Power | 17,587 | 5,881 | 17,294 | 5,786 | (95) |
| EMCO Power | 1,370 | 462 | 1,475 | 600 | 138 |
| Rattan India | 3,532 | 1,927 | 1,701 | 1,466 | (461) |
| Renewable Excluding CPP | 12,692 | 7,177 | 9,762 | 5,849 | (1,328) |
| Others | | | 319 | (111) | (111) |
| PGCIL Charges | | 2,142 | - | 2,387 | 245 |
| Traders and FBSM | | | (784) | 56 | 56 |
| **Total Power Purchase** | **1,15,380** | **43,754** | **1,16,104** | **43,826** | **72** |

4.5.2. In the following paragraphs, MSEDCL has given the detailed reasons for variation in the power purchase quantum and cost.

- MSPGCL

Following table shows the variation in the actual power purchase from MSPGCL stations vis-à-vis approved power purchase in the last MYT Order from MSPGCL.

**Table 4-11: Power Purchase from MSPGCL stations as submitted by MSEDCL**

| Station | FY 2016-17 | | | | | |
|---|---|---|---|---|---|---|
| | Quantum in MUs | | Cost Rs. Crs | | Variation | |
| | Approved | Actual | Approved | Actual | Quantum | Cost |
| Paras Unit 3 & 4 | 3,406 | 2,679 | 1,287 | 1,127 | (727) | (160) |
| Chandrapur 3 to 7 | 12,288 | 10,751 | 3,814 | 3,283 | (1,537) | (531) |
| Chandrapur 8 & 9 | 2,959 | 2,906 | 1,289 | 1,164 | (53) | (125) |
| Nasik 3, 4 & 5 | - | 2,973 | 336 | 1,409 | 2,973 | 1,073 |
| GTPS Uran | 3,494 | 3,203 | 1,043 | 742 | (291) | (302) |
| Parli Replacement 8 | 362 | 22 | 265 | 12 | (340) | (253) |
| KHAPARKHEDA - 1to 4 | 3,402 | 3,821 | 1,332 | 1,479 | 420 | 148 |
| KHAPARKHEDA 5 | 3,200 | 3,241 | 1,389 | 1,364 | 41 | (25) |
| Bhusawal 2 and 3 | | 574 | 80 | 305 | 574 | 225 |
| Bhusawal 4 and 5 | 664 | 5,089 | 1,259 | 2,650 | 4,425 | 1,390 |

| Station | FY 2016-17 | | | | | |
|---|---|---|---|---|---|---|
| | Quantum in MUs | | Cost Rs. Crs | | Variation | |
| | Approved | Actual | Approved | Actual | Quantum | Cost |
| Koradi 5,6 & 7 | - | 546 | 174 | 336 | 546 | 162 |
| Parli 3, 4 & 5 | - | (12) | 32 | 96 | (12) | 64 |
| Parli 6 & 7 | - | 1,399 | 344 | 737 | 1,399 | 393 |
| Koradi 8,9&10 | 6,004 | 4,237 | 2,608 | 1,749 | (1,767) | (858) |
| Hydro | 4,186 | 4,418 | 698 | 715 | 232 | 17 |
| Infirm | | 949 | | 653 | 949 | 653 |
| Others | | | | (1,362) | - | (1,362) |
| **Total** | **39,965** | **46,796** | **15,950** | **16,458** | **6,831** | **508** |

4.5.3. MSEDCL submitted that the major variation is on account of power sourced from Nashik 3, 4 & 5 and Bhusawal 4 & 5 due to transmission constraint, Infirm Power and Other adjustments as well as requirement of running thermal plants on technical minimum. Further addition of 949 MUs from infirm power was not be anticipated at the time of MYT Order, which in an additional reason for variation between approved and claimed.

4.5.4. MSEDCL further submitted that MSPGCL has passed through the impact of provisional true up for FY 2013-14 and 14-15 amounting to Rs. 1362 Crs. Details of which are

a) Supplementary Credit Bills towards provisional True up for FY 2015-16 amounting to Rs 1300.47 Crs;

b) Surplus approved for Final true up of FY 14-15 Rs. 61.77 Crs as per MERC Order in Case 46 of 2016 dtd. 30.08.2016.

- NTPC

MSEDCL submitted that during FY 16-17, Mauda II (Capacity 660 MW) achieved COD on 01st February 2017 due to that additional generation of 220 MUs received from NTPC.

Further, the Commission did not consider any power purchase from Kawas and Gandhar. However, MSEDCL has procured power from these Stations.

MSEDCL further submitted that CERC has issued Orders for various Stations for the period FY 2013-14 to FY 2018-19 as per the CERC Tariff Regulations 2014 which were not considered in the MYT order. Due to this, the cost of NTPC stations has revised.

- NPCIL

MSEDCL submitted that the Kakrapar Nuclear Plant was on outage from Apr 2016. Hence, there was no power purchase as against 1095 MUs approved. This was an unforeseen event and hence, there is a deviation.

- DODSON

There has been decline in generation in Dodson II. There was zero generation from Sep 16 to Dec 16. Hence, total power purchase from Dodson is less than approved. Further, hydro being must run power, fixed cost had to be paid. This increased actual cost compared to the approved cost. Further, incentives of Rs. 1.26 Crs were paid for capacity index.

- Renewable

MSEDCL submitted that since the data for renewable sources needs to be collected from field offices, same was not available for the month of Dec 16 to Mar 17. While submitting the provisional data, MSEDCL estimated quantum of around 4700 MUs with purchase cost of Rs. 2656 Crore for these four months. However, the actual quantum is 3686 MUs amounting around Rs. 2517 Crore. Hence, there is difference of around 1014 MUs and Rs. 139 Crore. Further, field offices make provisions for bills at the end of the year. MSEDCL has executed EPAs with various wind generators in the month of March 2017 for the power injected from stations with COD upto March 17 and hence a provision of Rs. 345 Crore has been made in the Books of account. MSEDCL has further made a provision for Renewable Energy Certificate Rs. 99.9 Crore, Renewable energy obligation fund provision Rs. 206.6 Crs, provision of Rs. 169.52 Crs towards new PPAs of 154 MW. MSEDCL further submitted that an amount of Rs. 96.47 Crs have been withdrawn being related to prior period and MSEDCL have availed rebate amounting to Rs. 56.03 Crs. during the FY 2016-17.

- FBSM

MSEDCL submitted that credit bill amounting to Rs. 124.94 Crs for the FBSM was not considered in approved figures as the same cannot be estimated.

- PGCIL

PGCIL raised POC -3 bill of Rs. 101.35 Crs for April 16 to Jun 16, Rs 71.79 Crs for Jul. 16 to Sep 16 and Rs. 5.23 Crs bill against True up. In addition, inter regional charges bill of Rs. 23.80 Crs. was raised as per revision of REA.

- Rattan India

Due to backing down, actual power purchase was 1701 MUs as against 3533 MUs approved.

- Adani

Adani 440 MW plant achieved COD in Feb 17. There has been a deduction against deemed availability for APML amounting to Rs. 90 crs.

- MP Electricity Board & OA generators

MSEDCL purchased 9 MUs of power from M.P. Electricity Board amounting to Rs. 4.71 Crs. The purchase of 310 MUs of over injected units by Open Access generators amounted to Rs. 6.73 Crs, which also accounted for the lapsed units 161 MUs.

- Short term Power Purchase

In case of any shortfall from approved sources, when demand exceeds availability or for cost optimisation, MSEDCL sources power from exchange/Traders or other sources through competitive bidding in accordance with the Guidelines of MoP. Accordingly, short term power procured of 609 MUs amounting to Rs. 180.61 Crs has been procured which was not considered in the MYT.

**Commission's Analysis and Ruling**

4.5.5. The Commission asked for the Reconciliation Statement on power purchase expenses between 'Revenue from Sale of power to MSEDCL as per MSPGCL Audited Accounts for FY 2016-17' and 'Cost of Purchase of Power from MSPGCL as per MSEDCL Audited Accounts for FY 2016-17'. While the Audited Accounts of MSPGCL show the revenue from sale of power to MSEDCL of Rs. 16623.77 crore, MSEDCL has not reported the breakup of Power purchase in Audit Accounts showing the expense towards power purchase from MSPGCL. Then, the Commission asked MSEDCL to submit detailed breakup of power purchase expense reported in the Audited accounts of MSEDCL in, along with the reconciliation of the difference, if any. MSEDCL submitted the reconciliation of the difference amount and found them to be in order.

4.5.6. MSEDCL submitted that it inadvertently had included quantum of 155.54 MUs from NVVN in RE sources instead of conventional energy sources. Similarly, quantum of 319 MUs of MPSEB and over injected units by OA generators was considered in RE sources. The Commission admits the MSEDCL's revised submission and approved the same.

4.5.7. The MoP, vide Resolution dated 15 May 2012, had issued Guidelines for short-term power procurement by Distribution Licensees through tariff-based competitive bidding. Hence, the Commission had directed MSEDCL to procure all short-term power with the above said issued guidelines through competitive bidding route. Accordingly, the Commission approved a ceiling rate of Rs. 4.00 per kWh for power procurement from short-term sources over the 3rd Control Period in Case No. 48 of 2016. The Commission verified the details of monthly short-term power procured by MSEDCL with the monthly average rate and quantum for FY 2016-17. The average yearly short-term procurement computed was found to be well below the ceiling norm of Rs. 4.00 per kWh. Hence, the Commission finds it to be in order and approves the short-term power purchase for FY 2016-17.

4.5.8. MSEDCL was asked for samples of Supplementary bills of NTPC and NPCIL stations for FY 2016-17. MSEDCL submitted samples of supplementary bills raised by Generator during the year. The Commission has verified the sample bills and found them to be in order.

4.5.9. MSEDCL has submitted that there has been a reduction in cost of MSPGCL stations due to pass through of the provisional true up for FY 2013-14 and FY 2014-15 amounting to Rs. 1362 crore. The Commission has verified the pass through bills submitted towards the same for FY 2016-17 and found them to be in order.

4.5.10. As per the RPO Regulations, 2016, each Distribution Licensee has to meet 11% of its requirement through RE sources in FY 2016-17, including 1% through solar sources and 10% through Non-solar (Other RE) sources. In addition, 0.2% of the Non-solar (Other RE) RPO obligation has to be met through Mini Hydro or Micro Hydro power projects.

4.5.11. The Commission had verified the compliance of RPO targets by MSEDCL for FY 2016-17 in its Order dated 31 July 2018 in Case No. 207 of 2017. The Commission concluded that MSEDCL had not fulfilled its stand-alone Solar and Mini /Micro Hydro Power targets for FY 2016-17, with a shortfall of 689.86 MU and 21.682 MU, respectively. It also had a cumulative shortfall as at the end of FY 2016-17, including earlier years, of 2049.614 MU and 90.252 MU, respectively. However, it is noted that MSEDCL had fulfilled its stand-alone Non-Solar RPO target for 2016-17, with a cumulative surplus at the end of FY 2016-17, including earlier years, of 34.152 MU. The Order ruled as follows:

*"21. As discussed earlier, the Commission notes the justification and the mitigating circumstances submitted by MSEDCL as cited at para 16 above for its shortfall against Solar RPO targets. However despite those submissions and facts there under, the resultant effect is that MSEDCL's standalone and cumulative shortfall towards Solar RPO targets as at the end of FY 2016-17 has increased. The Commission observes that MSEDCL is mandated to fulfil its RPO targets in any case. Accordingly, the Commission directs MSEDCL as follows with regard to the stand-alone and cumulative shortfall against its Solar RPO targets in FY 2016-17:*

*i) MSEDCL shall purchase Solar power and/or RECs (subject to Supreme Court decision) so as to fully meet its standalone and cumulative shortfall (as determined earlier in this Order at the end of FY 2016-17), by the end of March, 2019 instead of March 2020 as requested by MSEDCL.*

*ii) The performance of MSEDCL in this regard shall be reviewed by the Commission in future RPO compliance verification proceedings (FY 2017-18) and also taken into account in the relevant Tariff proceedings."*

4.5.12. Further, as sought by the Commission, MSEDCL submitted the reconciliation of FBSM bills with the Audited Accounts, which was verified.

4.5.13. For verification of the Variable Charges considered for the IPPs, MSEDCL was asked to submit the reconciliation of Total Charges considered for IPPs.. MSEDCL submitted the required details, and stated that the PPA rates are linked to various factors such as variation in monthly exchange rate, CERC index for inland handling of imported fuel and CERC index for inland transportation of fuel. In addition, the submitted variable charge and fixed charge was cross-verified from the MSEDCL's FAC statement for the month of March 2018 and found them in order.

4.5.14. Accordingly, upon necessary verifications, the Commission approves the actual power purchase expenses as claimed by MSEDCL for FY 2016-17 for the purpose of truing up of FY 2016-17. The approved Power Purchase if shown in the table below..

**Table 4-12: Power Purchase Expenses for FY 2016-17 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MTR Petition | Approved in this Order |
|---|---|---|---|
| Power Purchase Expenses | 43,754 | 43,826 | 43,826 |

## 4.6. Transmission Charges for FY 2016-17

**MSEDCL's Submission**

4.6.1. The Commission has approved Transmission Charges for FY 2016-17 in its InSTS Tariff Order in Case No. 57 of 2015 and 91 of 2016, and the MSLDC Charges in its Order in Case No. 218 of 2014 and 20 of 2016. The same have been applied for FY 2016-17. The Transmission Charges claimed by MSEDCL are as shown in the following Table:

**Table 4-13: Transmission Charges for FY 2016-17 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Transmission Charges paid to Transmission Licensee | 4,611 | 3,793 |

**Commission's Analysis and Ruling**

4.6.2. The Commission has considered the actual Transmission Charges and SLDC charges paid by MSEDCL for the purpose of truing up of FY 2016-17.

**Table 4-14: Transmission Charges for FY 2016-17 as per Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Transmission Charges paid to Transmission Licensee | 4,611 | 3,793 | 3,793 |

## 4.7. O&M Expenses for FY 2016-17

**MSEDCL's Submission**

4.7.1. MSEDCL has considered the O&M Expenses on actual basis as per its Audited Annual Accounts for FY 2016-17, as shown below:

**Table 4-15: O&M Expenses for FY 2016-17 as submitted by MSEDCL (Rs. Crore)**

| Particulars | FY 2016-17 (Actual) |
|---|---|
| Employee Expenses | 4,292 |
| A&G Expenses | 727 |
| RM Expenses | 777 |
| **Net O&M Expenses** | **5,797** |

4.7.2. While MSEDCL has claimed O&M Expenses as per the Audited Annual Accounts, it has also sought that they be approved as per the norms specified in the MYT Regulations, 2015. Accordingly, it has worked out the O&M Expenses separately for the Wires Business and Supply Business on a normative basis in accordance with the Regulations.

4.7.3. Considering the year-on-year variations in CPI and WPI, MSEDCL has calculated the escalation factor as shown in the following table.

**Table 4-16: O&M Expenses escalation factor for FY 2016-17**

| Year | WPI | % Annual Change | CPI | % Annual Change |
|---|---|---|---|---|
| 2012-13 | 167.62 | 7.36% | 215 | 10.44% |
| 2013-14 | 177.64 | 5.98% | 236 | 9.68% |
| 2014-15 | 181.19 | 2.00% | 251 | 6.29% |
| 2015-16 | 176.67 | -2.49% | 265 | 5.65% |
| 2016-17 | 183.2 | 3.70% | 276 | 4.12% |
| 5 year average | | 3.31% | | 7.24% |
| Weight | 30% | 0.99% | 70% | 5.06% |
| **Combined** | | **6.06%** | | |

4.7.4. MSEDCL has calculated the O&M Expenses for Wires Business and Retail Supply of electricity for FY 2016-17 considering the above escalation factor and O&M expenses for FY 2015-16 after considering the impact of sharing of gains, as shown in following tables.

**Table 4-17: Comparison of O&M Expenses for FY 2016-17 by MSEDCL (Wires + Supply) (Rs. crore), as submitted by MSEDCL**

| Particulars | MYT Order | Normative O&M | Actual /Audited |
|---|---|---|---|
| O&M Expenditure for Wires business | 3,843 | 4,389 | |
| O&M Expenditure for Retail Supply business | 2,069 | 2,364 | |

| Particulars | MYT Order | Normative O&M | Actual /Audited |
|---|---|---|---|
| **Operation and Maintenance Expenses** | **5,912** | **6,753** | **5,797** |

4.7.5. The Commission may approve the O&M Expenses as per the Audited Accounts and undertake sharing of gains vis-à-vis the normative O&M expenses as per the MYT Regulations, 2015.

**Commission's Analysis and Ruling**

4.7.6. The Commission has applied the amended norms specified in Regulations 72 and 81 of the MYT Regulations, 2015 for approval of O&M Expenses for the Wires Business and Supply Business.

4.7.7. As per the amendment to the MERC (MYT) Regulations, 2015 the Base Year expenses for FY 2015-16 needs to be escalated by an inflation factor with 30% weightage to the average yearly inflation derived based on the monthly Wholesale Price Index (WPI) of the past five financial years and 70% weightage to the average yearly inflation derived based on the monthly Consumer Price Index (CPI) for Industrial Workers (all-India) of the past five financial years, as reduced by an efficiency factor of 1% to arrive at the permissible O&M expenses for each year of the Control Period.

4.7.8. The Commission has computed the escalation factor as specified according to the above provision of the MYT Regulations, 2015 and the same works out to 6.06% without escalation factor and 5.06% after reducing 1% efficiency factor. For the purpose of working out normative O&M expenses for FY 2016-17, an escalation factor of 5.06% considering after reducing 1% efficiency factor has been considered.

4.7.9. The Commission has further verified the actual O&M expenses of MSEDCL for FY 2016-17 from the audited accounts and found the same to be lower than normative O&M expense. Since O&M expense is a controllable expense, the efficiency gain on account of lower actual O&M expense compared to normative expense has to be shared among MSEDCL and the consumer in accordance with the principles outlined under MYT Regulations, 2015.

4.7.10. The O&M expense approved for the purpose of truing up of FY 2016-17 for Wires Business and Retail Supply of electricity is shown in following table.

**Table 4-18: O&M Expenses for FY 2016-17 (Wires+Supply) approved by the Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Normative | MSEDCL Actual /Audited | Approved in this Order |
|---|---|---|---|---|
| O&M Expenditure for Wires business | 3,843 | 4,389 | | 4,326 |
| O&M Expenditure for Retail Supply business | 2,069 | 2,364 | | 2,329 |
| **Operation and Maintenance Expenses** | **5,912** | **6,753** | **5,797** | **6,655** |

## 4.8. Capital Expenditure and Capitalisation for FY 2016-17

**MSEDCL's Submission**

4.8.1. The Capitalisation achieved by MSEDCL in FY 2016-17 is Rs 3,305 Crores as compared to capitalisation of Rs 8,457 Crores approved by the Commission in the MYT Order. The following Tables summarise the details of capital expenditure and capitalisation for DPR and Non-DPR schemes as submitted by MSEDCL:

**Table 4-19: Capex and Capitalisation as submitted by MSEDCL for FY 2016-17 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Capex | 9,990 | 4,420 |
| Capitalisation | 8,457 | 3,305 |

4.8.2. The scheme-wise details of capital expenditure and capitalisation for DPR and Non DPR Schemes are provided below:

**Table 4-20: DPR Scheme Capex and Capitalisation as submitted by MSEDCL for FY 2016-17 (Rs. crore)**

| DPR Scheme | Capital Expenditure | Capitalisation |
|---|---|---|
| Infra Plan Works | 152.07 | 150.00 |
| Infra Plan Works - II | 2,501.52 | 1,580.23 |
| Additional Infra _II | - | - |
| GFSS - I | - | - |
| GFSS - II | 2.72 | - |
| GFSS - III | 10.09 | 1.37 |
| GFSS IV | 46.80 | 11.20 |
| GFSS (Shrirampur) | - | - |
| Fixed Capacitor Scheme | 4.51 | 0.14 |
| **LT Capacitor Phase I & II** | - | - |
| Single Phasing - Left out villages | 4.43 | 2.01 |
| Elimination of 66 KV Line | - | - |
| AMR | - | - |

| DPR Scheme | Capital Expenditure | Capitalisation |
|---|---|---|
| APDRP | - | - |
| Phase-I | - | 7.16 |
| Phase-II | - | 5.41 |
| **RAPDRP A** | 82.43 | 24.60 |
| RAPDRP B | 382.73 | 186.93 |
| SCADA Part A | 1.62 | - |
| SCADA Part B | - | - |
| Internal Reform | - | - |
| DTC Metering | - | - |
| Phase-I & Phase-II | - | - |
| Phase-III | 28.91 | 3.75 |
| SPA:PE | 158.50 | 111.06 |
| P:SI | 7.45 | 3.41 |
| P:IE | 7.52 | 1.31 |
| DRUM | - | - |
| RGGVY | 1.54 | 5.19 |
| ERP | - | - |
| Agriculture Metering | 0.21 | 8.00 |
| MIDC Interest free Loan Scheme | - | - |
| Deogad Wind Power Project | - | - |
| Ag DSM-Pilot project in Mangalwedha, solapur | 1.81 | - |
| Star rated celing fan Phase-I | - | - |
| Star rated celing fan Phase-II (HVAC) | 11.57 | - |
| DDUGJY | 0.73 | - |
| IPDS | 0.68 | - |
| Sinhansth Kumbmela Nashik | 8.62 | 8.62 |
| **Total DPR Schemes** | **3,416.46** | **2,110.39** |

**Table 4-21: Non-DPR Scheme Capex and Capitalisation as submitted by MSEDCL for FY 2016-17 (Rs. crore)**

| Non-DPR Schemes | Capital Expenditure | Capitalisation |
|---|---|---|
| FMS | - | - |
| MIS / IT Backbone ( Integrated system +Big Data + Communication Backbone) | 3.93 | 1.16 |
| Load Management | 0.16 | 0.23 |

| Non-DPR Schemes | Capital Expenditure | Capitalisation |
|---|---|---|
| Distribution Scheme | - | - |
| P.F.C.Urban Distribution Scheme | - | - |
| MIDC Interest free Loan Scheme | 0.38 | - |
| Evacuation | 0.89 | 0.89 |
| Evacuation Wind Generation ** | 2.83 | - |
| R E Dist | - | - |
| I-RE/ND | - | - |
| DPDC / Non-Tribal | 37.11 | 143.74 |
| DPDC / SCP (Loan up to 2012-13) | 77.09 | 80.20 |
| DPDC / TSP + OTSP | 183.85 | 199.28 |
| Rural Electrification | - | - |
| JBIC | - | - |
| New consumers | 3.35 | 1.30 |
| Back log | 182.22 | 211.48 |
| Ag Special Package for Vidabhrba /maratwada & maha | 360.98 | 296.67 |
| Single Phasing | 6.06 | 1.05 |
| Special Action Plan (Nandurbar) | - | - |
| Ag Special Package for Vidabhrba /maratwada | - | - |
| Single Phasing - I, II, III | - | - |
| Draught Fund from Govt. | 144.70 | 259.05 |
| **Total Non-DPR Schemes** | **1,003.55** | **1,195.05** |

**Table 4-22: Summary of Capex and Capitalisation as submitted by MSEDCL for FY 2016-17 (Rs. crore)**

| Particulars | FY 2016-17 (Actual) |
|---|---|
| **Capital Expenditure** | |
| DPR Schemes | 3,416 |
| Non DPR Schemes | 1,004 |
| **Total** | 4,420 |
| **Capitalisation** | |
| DPR Schemes | 2,110 |
| Non DPR Schemes | 1,195 |
| **Total** | 3,305 |

4.8.3. MSEDCL has further submitted that as per the Annual Audited Accounts, the addition to GFA is Rs. 3,363 Crores, whereas in Form 4.2 MSEDCL has shown capitalisation as Rs. 3,305 Crores. MSEDCL has further submitted that in Form 4.2, only scheme wise details have been shown whereas in Annual Accounts the addition to GFA is shown in totality including land and land rights, building etc. The details are shown in the following table:

**Table 4-23: Summary of Capitalisation (Rs. Crore)**

| Sr. No. | Particulars | Amount (Rs. crore) |
|---|---|---|
| 1 | Capitalisation as per Note 3 of Annual Accounts | 3,363 |
| 2 | Capitalisation as per Form 4 | 3,305 |
| 3 | **Other Assets** | |
| 4 | Land | 17.79 |
| 5 | Buildings | 17.42 |
| 6 | Vehicles | 0.31 |
| 7 | Furniture & Fixtures | 3.51 |
| 8 | General Assets | 16.98 |
| 9 | Other Civil Works | 2.37 |
| | **Total (2 to 9)** | **3,363** |

4.8.4. MSEDCL has further submitted that the Commission in MYT order dated 3rd November 2016 had allowed the capitalisation towards the scheme not forming part of any specific scheme for FY 2014-15. Therefore, MSEDCL has requested to approve the capitalisation as per the Audited Accounts and revise the GFA accordingly.

**Commission's Analysis and Rulings**

4.8.5. MSEDCL has claimed excess capitalisation over and above in-principle approved cost for certain schemes in some years. Regulation 23.2 of MYT Regulations, 2015 is reproduced below:

> *"The capital cost admitted by the Commission after prudence check shall form the basis for determination of Tariff:*
> *Provided that prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan including the choice and manner of funding, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of Tariff."*

4.8.6. Some of these schemes are those on which excess capitalisation has also been claimed in FY 2015-16, for which the Commission has disallowed 50% of the IDC on account of delay. The Commission has taken the same view on these schemes for the 3rd Control Period as well, and has disallowed 50% of the IDC.

**Table 4-24: Excess Capitalisation during FY 2016-17 (Rs. Crore)**

| Major Schemes | Excess Capitalisation in FY 2016-17 |
|---|---|
| Infra Plan Works | 150 |
| GFSS - III | 1.37 |
| RAPDRP A | 24.6 |
| Phase-III | 3.75 |
| SPA:PE | 111.06 |
| P:SI | 3.41 |
| P:IE | 1.31 |
| RGGVY | 5.19 |
| **Total** | **300.69** |

4.8.7. The Commission has verified the DPR schemes submitted by MSEDCL and has allowed actual capitalisation in FY 2016-17 towards such schemes for which in-principle approval is already accorded.

4.8.8. Further Regulation 23.6 of MYT Regulation 2015 specifies limit on capitalisation of non-DPR schemes that are allowable:

> *"23.6 The amount of capitalisation against non-DPR schemes for any Year shall not exceed 20% or such other limit as may be stipulated by the Commission through an Order, of the amount of capitalisation approved against DPR schemes for that Year :*
> *Provided that the Commission may allow capitalisation against non-DPR schemes for any Year in excess of 20% or such other limit as may have been stipulated by the Commission through Order, on a request made by the Generating Company or Licensee or MSLDC."*

4.8.9. In line with the above Regulations, capitalisation towards non-DPR schemes has been allowed only up to that threshold level.

4.8.10. Accordingly, the capitalisation approved for FY 2016-17 is as shown below:

**Table 4-25: Capitalisation approved by the Commission for FY 2016-17 (Rs. Crore)**

| Particulars | Reference | FY 2016-17 |
|---|---|---|
| Total DPR scheme capitalization allowed | a | 2,110 |
| Total Excess Capitalisation in the year | b | 301 |
| 50% of IDC of excess capitalisation | c | 1.31 |
| **Net DPR Allowed after adjusting IDC of excess capitalisation** | **d=a-c** | 2,109 |
| Allowable non-DPR scheme capitalisation(considering 20% cap) | e =20% of d | 422 |
| Non-DPR scheme capitalisation claimed | f | 1,195 |
| Excess claimed for non-DPR schemes | g | 773 |
| **Net Non-DPR capitalisation approved** | **h=min(e,f)** | 422 |
| **Total (DPR+ non-DPR Capitalisation+ other schemes)** | **i=d+h** | 2,531 |

4.8.11. Accordingly, capitalisation approved for FY 2016-17 is summarised below:

**Table 4-26: Capitalisation for FY 2016-17 (Rs crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Capitalisation | 8,457 | 3,305 | 2,531 |

## 4.9. Depreciation for FY 2016-17

**MSEDCL's Submission**

4.9.1. MSEDCL submitted that it has claimed the depreciation for FY 2016-17 as per Audited Accounts.

4.9.2. MSEDCL has submitted a comparison of depreciation expense approved by the Commission and actual depreciation expenses of MSEDCL as shown in following Table:

**Table 4-27: Depreciation as submitted by MSEDCL for FY 2016-17 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Opening GFA | 43,224 | 45,788 |
| Depreciation | 2,063 | 2,043 |
| % Depreciation | 4.77% | 4.46% |

4.9.3. MSEDCL has requested the Commission to approve the depreciation as per the Audited Accounts.

**Commission's Analysis and Rulings**

4.9.4. The Commission has worked out allowable depreciation considering the approved Opening GFA for FY 2016-17 and on the revised capitalisation approved during the year. The opening GFA for FY 2016-17 is considered same as the closing GFA approved for FY 2015-16 in the previous chapter for truing up of FY 2015-16.

4.9.5. Commission notes that MSEDCL in the present MTR Petition had highlighted the issue of change in accounting practice and corresponding treatment of consumer grants and contributions while working out depreciation. The submission of MSEDCL on this account is captured in detail under relevant section of truing up of FY 2015-16 of this Order. This issue has relevance for years subsequent to FY 2015-16 as well. As regards this issue, the Commission would like to highlight that as per provision of MYT Regulations, 2015, consumer contribution and grants should be deducted from GFA while working out depreciation. The relevant Regulations is reproduced as under.

> *"25.2 The expenses on such capital works shall be treated as follows :—*
> *(a) normative O and M expenses as specified in these Regulations shall be allowed ;*
> *(b) the debt-equity ratio, shall be considered in accordance with Regulation 26, after deducting the amount of such financial support received ;*
> ***(c) provisions related to depreciation, as specified in Regulation 27, shall not be applicable to the extent of such financial support received ;***
> *(d) provisions related to return on equity, as specified in Regulation 28 shall not be applicable to the extent of such financial support received ;*
> *(e) provisions related to interest on loan capital, as specified in Regulation 29 shall not be applicable to the extent of such financial support received."* ***(Emphasis Added)***

4.9.6. Accordingly, for the purpose of computation of depreciation for FY2016-17, the Commission has excluded contribution from grants and consumer contribution.

**Table 4-28: Depreciation approved for FY 2016-17 (Rs. crore)**

| Particulars | Approved in this Order |
|---|---|
| Opening GFA | 45,344 |
| Depreciation | 2,023 |

| Particulars | Approved in this Order |
|---|---|
| % Depreciation | 4.462% |

4.9.7. The depreciation approved for FY 2016-17 is as follows:

**Table 4-29: Summary of Depreciation for FY 2016-17 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Depreciation | 2,063 | 2,043 | 2,023 |

## 4.10. Interest Expenses for FY 2016-17

**MSEDCL's Submission**

4.10.1. MSEDCL has submitted that the interest expenditure on account of long-term loans, repayments, and prevailing interest rates on the outstanding loans. Further, the projected capital expenditure and the funding of the same also have a major bearing on the long term interest expenditure.

4.10.2. In reference to Regulation 29.3 of MERC MYT Regulations, 2015, MSEDCL has submitted that the Regulation provides for repayment equal to depreciation for calculation of interest. Further MSEDCL has computed the weighted average interest rate considering the average of the loan (opening and closing) and interest paid during the year FY 2016-17 as 11.37%. MSEDCL has submitted that the interest is calculated on the normative average loan availed during the year using weighted average interest rate as shown in the following table:

**Table 4-30: Interest on Long Term Loans FY 2016-17**

| Particulars | FY 2016-17 (Approved) | FY 2016-17 (Normative) | Deviation |
|---|---|---|---|
| Normative Outstanding Loan at beginning of the year | 14,533 | 14,343 | (191) |
| Loan Drawal | 5,739 | 1,535 | (4,204) |
| Loan Repayment | 2,063 | 2,043 | (20) |
| Normative Balance outstanding at the end of the year | 18,210 | 13,835 | (4,375) |

| Particulars | FY 2016-17 (Approved) | FY 2016-17 (Normative) | Deviation |
|---|---|---|---|
| Interest Rate | 11.83% | 11.37% | -0.46% |
| Gross Interest Expenses | 1,937 | 1,602 | (335) |

4.10.3. MSEDCL has further submitted that the actual capitalisation is lower than capitalisation approved in MYT order. The actual loan drawl is also lower than that of projected in MYT Petition. MSEDCL has requested the Commission to approve the Interest Expense as submitted in the above table.

**Commission's Analysis and Ruling**

4.10.4. The Commission has allowed the interest expenses on normative basis linked to the normative opening loan and normative loan addition approved during the year. Further, for arriving at the interest rate, the Commission has considered the weighted average interest rate of actual loan portfolio during the FY 2016-17 in accordance with Regulation 29.5 of the MYT Regulations, 2015. Regulation 29.5 of MYT Regulations, 2015 is reproduced as below:

4.10.5. Regulation 29.5 of MYT Regulations, 2015 is reproduced as below:

> *"29.5 The rate of interest shall be the weighted average rate of interest computed on the basis of the actual loan portfolio at the beginning of each year :*
>
> ***Provided that at the time of Truing-up, the weighted average rate of interest computed on the basis of the actual loan portfolio during the concerned year shall be considered as the rate of interest:" (Emphasis added)***

4.10.6. Further, the Commission has verified that there is no retirement of assets from the Audited Accounts of FY 2016-17.

4.10.7. The Commission has further ensured debt equity ratio of 70:30 and wherever equity is higher than 30%, the same has been considered as normative loan. The funding pattern for FY 2016-17 for the capitalisation approved by the Commission, in proportion to the funding pattern of capital expenditure adopted by MSEDCL and considering the approved capitalisation for the respective year, is presented in the following table:

**Table 4-31: Funding Pattern approved by Commission (Rs. Crore)**

| Particular | Amount (Rs. crore) | Funding Mix (%) |
|---|---|---|
| Total Capitalisation | 2,531 | |
| Less: Consumer Contribution | 197 | |
| Less: Grants | 564 | |
| Balance to be funded | 1,770 | |
| Equity | 531 | 30% |
| Debt | 1,239 | 70% |

4.10.8. Besides, the Opening loan for FY 2016-17 is considered same as closing balance of FY 2015-16 approved by the Commission.

**Table 4-32: Interest Expenses approved by the Commission for FY 2016-17 (Rs. Crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Opening Balance of Gross Normative Loan | | | |
| Cumulative Repayment till the year | | | |
| Opening Balance of Net Normative Loan | 14,533 | 14,343 | 14,359 |
| Less: Reduction of Normative Loan due to retirement or replacement of assets | - | - | - |
| Addition of Normative Loan due to capitalisation during the year | 5,739 | 1,535 | 1,239 |
| Repayment of Normative Loan during the year | 2,063 | 2,043 | 2,023 |
| Closing Balance of Net Normative Loan | 18,210 | 13,835 | 13,575 |
| Closing Balance of Gross Normative Loan | | | |
| Average Balance of Net Normative Loan | 16,372 | 14,089 | 13,967 |
| Weighted average Rate of Interest on actual Loans (%) | 11.83% | 11.37% | 11.37% |
| Interest Expenses | 1,937 | 1,602 | 1,588 |
| Expenses Capitalised | - | - | |
| **Total Interest Expenses** | **1,937** | **1,602** | **1,588** |

## 4.11. Return on Equity for FY 2016-17

**MSEDCL's Submission**

4.11.1. MSEDCL has claimed RoE in accordance with Regulation 28.2 of MERC MYT Regulations, 2015. MSEDCL has computed the capital expenditure, equity and asset capitalisation as below:

**Table 4-33: Calculation of equity portion of the Capitalization for FY 2016-17 (Rs. Crores)**

| S.No. | Particulars | MYT Order | MSEDCL Petition |
|---|---|---|---|
| 1 | Capital Expenditure | -- | 4,420 |
| A | Less Grant | -- | 984 |
| B | Capital Expenditure (excl Grants) | -- | 3,436 |
| 2 | Equity | | |
| A | Internal Accrual | -- | 984 |
| B | GoM Equity | -- | 301 |
| C | Consumer Contribution | -- | 344 |
| 3 | Total Equity | -- | 941 |
| 4 | **Equity portion of capital expenditure 4= (3/1b)** | | 27.38% |
| 5 | Assets Capitalisation | | |
| A | Capitalisation | -- | 3,305 |
| B | Assets Capitalisation (to be considered in proportion to 1b) | -- | 2,569 |
| **6** | **Equity portion of Assets Capitalisation** | **2,003** | **704** |

4.11.2. MSEDCL has submitted that the Return on equity is allocated on the proposed ratio of fixed assets between wires and retail supply business, i.e. 90% to wires business and 10% to supply business. Therefore, the capital expenditure, grants, equity and capitalisation is divided into Wires and Supply business in the ratio of 90:10. In Form 4.4, MSEDCL has showed the details of year wise funding of various schemes wherein the debt equity portion is arranged. However, few capital works which are funded by consumers through consumer contribution has been reconciled at the time of finalisation of accounts. MSEDCL has further submitted it would be difficult to project and allocate the consumer contribution to any particular scheme and therefore, MSEDCL has not showed the consumer contribution in Form 4.4. However, MSEDCL has submitted that for the purpose of computation of RoE, the consumer contribution has been projected based on historical experience and capital expenditure as shown in above table.

4.11.3. As per provisions in MYT Regulations, MSEDCL has worked out capitalisation of expenditure in proportion to the capital expenditure calculated after deducting the grant. Further, MSEDCL has confirmed that 30% equity portion of assets retired has been reduced.

4.11.4. For wires business, the RoE has been computed at 15.5% on average equity based upon the opening balance of equity and normative additions during the year FY 2016-17 as below:

**Table 4-34: RoE for Wires Business for FY 2016-17 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | FY 2016-17 (Actual) | Deviation |
|---|---|---|---|
| Equity at the beginning of the year (Wires) | 8,846 | 9,819 | 973 |
| Capital Expenditure incurred (excl. Grants) | | 3,092 | |
| Equity portion of capital expenditure | | 847 | |
| % of Equity portion of capital expenditure | | 27.38% | |
| Assets Capitalisation | | 2,312 | |
| Equity portion of Assets Capitalisation | 673 | 633 | (40) |
| **Equity at the end of the year** | **9,519** | **10,452** | **933** |
| **Return on Computation** | | | |
| Return on Equity at the beginning of the year- 15.5% | 1,371 | 1,522 | 151 |
| Return on Normative Equity portion of Asset Capitalisation | 52 | 49 | (3) |
| | | | |
| **Total Return on Equity** | **1,423** | **1,571** | **148** |

4.11.5. For the Supply Business, the RoE has been computed @ 17.5% on the average equity taking the opening balance of equity and normative additions during the year. Accordingly, the RoE for the Retail Supply Business for FY 2016-17 is as under:

**Table 4-35: RoE for Supply Business for FY 2016-17 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | FY 2016-17 (Actual) | Deviation |
|---|---|---|---|
| Equity at the beginning of the year (Supply) | 983 | 1,091 | 108 |
| Capital Expenditure incurred (excl. Grants) | | 344 | |
| Equity portion of capital expenditure | | 94 | |
| % of Equity portion of capital expenditure | | 27.38% | |
| Assets Capitalisation | | 257 | |
| Equity portion of Assets Capitalisation | 75 | 70 | |
| **Equity at the end of the year** | **1,058** | **1,161** | **103** |

| Particulars | MYT Order | FY 2016-17 (Actual) | Deviation |
|---|---|---|---|
| **Return on Computation** | | | |
| Return on Equity at the beginning of the year- 17.5% | 172 | 191 | 19 |
| Return on Normative Equity portion of Asset Capitalisation | 7 | 6 | (0) |
| Interest on Equity portion above 30% @11.83%p.a | | | |
| **Total Return on Equity** | **179** | **197** | **18** |

**Commission's Analysis and Rulings**

4.11.6. The equity approved by the Commission at the end of FY 2015-16 in this order has been taken as the opening equity for FY 2016-17. Further, the Commission has verified that there is no retirement of assets from the Audited Accounts of FY 2016-17.

4.11.7. The Commission has approved the funding pattern based on the approved capitalisation for FY 2016-17, as discussed in the earlier Section on interest expenses

4.11.8. The RoE approved for the purpose of truing up of FY 2016-17 is as follows:

**Table 4-36: Return on Equity (Wires) for FY 2016-17 approved by Commission (Rs. crore)**

| Particulars | % | FY 2016-17 |
|---|---|---|
| Equity at the beginning of the year | | 9,311 |
| Equity portion of Assets Capitalisation | | 485 |
| **Equity at the end of the year** | | 9,796 |
| **Return on Equity Computation** | | |
| Return on Equity at the beginning of the year - @15.5% | 15.50% | 1,443 |
| Return on Normative Equity portion of Asset Capitalisation - @15.5%/2 | 15.50% | 38 |
| **Total Return on Equity** | | **1,481** |

**Table 4-37: Return on Equity (Supply) for FY 2016-17 approved by Commission (Rs. crore)**

| Particulars | % | FY 2016-17 |
|---|---|---|
| Equity at the beginning of the year | | 1,034 |
| Equity portion of Assets Capitalisation | | 54 |
| **Equity at the end of the year** | | 1,088 |
| **Return on Equity Computation** | | |

| Particulars | % | FY 2016-17 |
|---|---|---|
| Return on Equity at the beginning of the year - @17.5% | 17.50% | 181 |
| Return on Normative Equity portion of Asset Capitalisation - @17.5%/2 | 17.50% | 5 |
| **Total Return on Equity** | | **186** |

**Table 4-38: Summary of RoE approved by Commission (Wires+Supply) (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| RoE for Wires Business | 1,423 | 1,571 | 1,481 |
| RoE for Retail Supply Business | 179 | 197 | 186 |
| **Return on Equity** | **1,602** | **1,768** | **1,666** |

## 4.12. Interest on Working Capital for FY 2016-17

### MSEDCL's Submission

4.12.1. MSEDCL submitted that it has worked out interest on working capital as per Regulations 31.3 and 31.4 of the MYT Regulations, 2015 which specify the norms for IoWC for Wires and Supply Business. Accordingly, the IoWC and interest on Security Deposit claimed for the Wires Business is as presented in the following Table:

**Table 4-39: Interest on Working Capital and Security Deposit for Wires Business for FY 2016-17 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| **Computation of Working Capital** | | |
| O&M expenses for a month | 320 | 366 |
| Maintenance Spares at 1% of Opening GFA | 389 | 412 |
| One and half months equivalent of the expected revenue from charges for use of Distribution Wires | 1,072 | 1,060 |
| Less: | | |
| Amount of Security Deposit from Distribution System users | (636) | (645) |
| **Total Working Capital Requirement** | 1,145 | 1,193 |
| | | |
| **Computation of Working Capital Interest** | | |
| Rate of Interest (% p.a) | 10.80% | 10.80% |
| **Interest on Working Capital** | **124** | **129** |

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| | | |
| **Interest on Security Deposit** | | |
| Rate of Interest (% p.a) | 10.80% | 10.80% |
| **Interest on Security Deposit** | **69** | **70** |

4.12.2. MSEDCL has calculated the interest on working capital at 10.80% per annum i.e., the Base Rate of State Bank of India (SBI) plus 150 basis points as provided in the MYT Regulations 2015.

4.12.3. As per the MYT Regulations 2015, the provision of reducing the working capital by the total amount of Consumer Security Deposit (CSD) is resulting in the net working capital being negative for the Supply Business. Therefore, the working capital requirement based on normative principles works out to zero. However, the amount of CSD reflected in its Books of Accounts is just a notional amount. Although it is reflected in the Balance Sheet, in the Transfer Scheme MSEDCL has not physically received such deposits in cash from the erstwhile Maharashtra State Electricity Board (MSEB).

4.12.4. MSEDCL submitted that the opening Balance of Consumer Security Deposit is Rs.1,823 Crore. Even though, subsequently, MSEDCL received security deposit from consumers, due to opening balance, MSEDCL is suffering loss of actual interest paid due to normative practise adopted by the Commission. Therefore, MSEDCL requested the Commission not to consider the opening balance of Consumer Security Deposit while calculating the working capital requirement. Accordingly, MSEDCL has claimed the balance IoWC in the Supply Business, i.e. IoWC as per Audited Accounts less the IoWC claimed in the Wires Business. The IoWC for the Retail Supply Business is as shown below:

**Table 4-40: Interest on Working Capital and Consumers' Security Deposit for Supply Business for FY 2016-17 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| **Computation of Working Capital** | | |
| O&M expenses for a month | 172 | 197 |
| Maintenance Spares at 1% of Opening GFA | 43 | 46 |
| One and half months equivalent of the expected revenue from sale of electricity at the prevailing Tariff, and | 6,828 | 6,759 |

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| including revenue from cross-subsidy surcharge and additional surcharge | | |
| Less: | | |
| Amount of Security Deposit from retail supply consumers | (5,728) | (5,806) |
| One month equivalent of cost of power purchase, Transmission Charges and MSLDC Charges | (4,030) | (3,968) |
| Total Working Capital Requirement | (2,715) | (2,772) |
| | | |
| **Computation of Working Capital Interest** | | |
| Rate of Interest (% p.a) | 10.80% | 10.80% |
| **Interest on Working Capital** | **-** | **642** |
| | | |
| **Interest on Security Deposit** | | |
| Rate of Interest (% p.a) | 10.80% | |
| **Interest on Security Deposit** | **619** | **534** |

***Commission's Analysis and Ruling***

4.12.5. Commission has worked out IoWC and interest on security deposit on normative basis as specified under MYT Regulations, 2015. For verification of actual interest on working capital, presented as Rs. 770.52 crore for FY 2016-17 the Commission sought reconciliation of the same with Audited Accounts. MSEDCL submitted the break-up of IoWC expense as shown in the following Table and reconciled the same with Audited Accounts.

**Table 4-41: Interest on Working Capital for FY 2016-17, as submitted by MSEDCL**

| Particulars | Amount (Rs. crore) |
|---|---|
| Interest on Cash Credit | 293.99 |
| Interest on Short Term Loans | 461.06 |
| Interest on Medium-term Loan from REC | 4.66 |
| Interest on Medium-term Loan from PFC | 10.82 |
| **Total Interest on Working Capital Loan** | **770.52** |

4.12.6. As per the Regulation 29.11 of the MYT Regulations 2015, the Commission has allowed the interest on the amount of security deposit for the year on the basis of the actual interest paid by the Licensee. The Commission has reworked the IoWC in accordance with the MYT Regulations, 2015 norms and based on parameters such as the O&M Expenses, Wires ARR and Supply ARR approved in this Order.

**Table 4-42: Interest on Working Capital and Security Deposit for Wires Business as approved by Commission for FY 2016-17 (Rs. crore)**

| Particulars | FY 2016-17 | |
|---|---|---|
| | MSEDCL Petition | Approved in this Order |
| O&M expenses for a month | 366 | 360 |
| Maintenance Spares at 1% of Opening GFA | 412 | 408 |
| One and half months equivalent of the expected revenue from charges for use of Distribution Wires | 1,060 | 1,038 |
| Less: Amount of Security Deposit from Distribution System users | (645) | (645) |
| **Total Working Capital Requirement** | **1,193** | **1,161** |
| | | |
| **Computation of Working Capital Interest** | | |
| Rate of Interest (%) = SBI Base Rate + 150 basis points | 10.80% | 10.79% |
| **Interest on Working Capital** | **129** | **125** |
| | | |
| **Interest on Security Deposit** | | |
| Rate of Interest (%) = SBI Base Rate + 150 basis points | 10.80% | 10.79% |
| **Interest on Security Deposit** | **70** | **60** |

**Table 4-43:Interest on Working Capital and Consumers' Security Deposit for Supply Business as approved by Commission for FY 2016-17 (Rs crore)**

| Particulars | FY 2016-17 | |
|---|---|---|
| | MSEDCL Petition | Approved in this Order |
| O&M expenses for a month | 197 | 194 |
| Maintenance Spares at 1% of Opening GFA | 46 | 45 |
| One and half months equivalent of the expected revenue from sale of electricity including revenue from CSS and Additional Surcharge | 6,759 | 6,759 |
| Less: Amount of Security Deposit | (5,806) | (5,806) |
| Less: One month equivalent of cost of power purchase, Transmission Charges and MSLDC Charges | (3,968) | (3,968) |
| **Total Working Capital Requirement** | **(2,772)** | **(2,776)** |
| | | |
| **Computation of Working Capital Interest** | | |
| Rate of Interest (%) = SBI Base Rate + 150 basis points | 10.80% | 10.79% |
| **Interest on Working Capital** | **642** | **-** |
| | | |

| Particulars | FY 2016-17 | |
|---|---|---|
| | MSEDCL Petition | Approved in this Order |
| **Interest on Security Deposit** | | |
| Rate of Interest (%) = SBI Base Rate + 150 basis points | 10.80% | 10.79% |
| **Interest on Security Deposit** | **534** | **543** |

4.12.7. Accordingly, the IoWC and the Interest on Security Deposits from Consumers and Distribution System Users approved for FY 2016-17 is as follows:

**Table 4-44: IoWC and Interest on Security Deposit as approved by Commission FY 2016-17 (Wires+Supply) (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| IoWC & Interest on CSD (Wires) | 193 | 198 | 186 |
| IoWC & Interest on CSD (Supply) | 619 | 1,175 | 543 |
| **IoWC & Interest on CSD** | **812** | **1,374** | **729** |

4.12.8. Under the MYT Regulations, 2015, IoWC expense is a controllable parameter, and any difference between the actual and the approved IoWC should be considered as efficiency gain or efficiency loss to be shared among MSEDCL and consumers in accordance with Regulations. The efficiency loss to the extent of the difference between the actual IoWC as per the Audited Accounts and that allowed on normative basis for FY 2016-17 has been shared accordingly. The subsequent sections detailed the sharing of gains/losses.

4.12.9. Regulation 31.6 of MYT Regulations, 2011 specifies that the contribution of delay in receipt of payment to the actual interest on working capital shall be deducted from the actual interest on working capital, before sharing of the efficiency gain or efficiency loss. The relevant Regulations is reproduced as following:

*"31.6 For the purpose of Truing-up for each year, the variation between the normative interest on working capital computed at the time of Truing-up and the actual interest on working capital incurred by the Generating Company or Licensee or MSLDC, substantiated by documentary evidence, shall be considered as an efficiency gain or efficiency loss, as the case may be, on account of controllable factors, and shared between it and the respective Beneficiary or consumer as the case may be, in accordance with Regulation 11 :*

*Provided that the contribution of delay in receipt of payment to the actual interest on working capital shall be deducted from the actual interest on working capital, before sharing of the efficiency gain or efficiency loss, as the case may be."*

4.12.10. To give effect to the above provision, actual interest on working capital in FY 2016-17 has been reduced by the amount of contribution of actual delay payment charges (pro-rata reduced to adjust for average interest rate of DPC@ 15% p.a) for FY 2016-17. Thus the net actual IoWC works out to Rs. 438 Crore. This amount of net IoWC has been considered for the purpose of sharing of gains and losses on account of IoWC.

### 4.13. Other Finance Charges for FY 2016-17

**MSEDCL's Submission**

4.13.1. MSEDCL incurred Other Finance Charges amounting to Rs. 29 crores in FY 2016-17. These are the Fund raising charges, i.e. Guarantee Charges, Finance Charges, Stamp Duty and Service Fee, and are as shown in the following Table.

**Table 4-45: Other Finance Charges for FY 2016-17 as per MSEDCL (Rs. crore)**

| Particulars | MSEDCL Petition |
|---|---|
| Guarantee Charges | 2 |
| Finance Charges | 21 |
| Stamp Duty | 1 |
| Service Fee i.e. Fund raising charges | 5 |
| **Total Other Finance Charges** | **29** |

***Commission's Analysis and Ruling***

4.13.2. The Commission has verified the above Charges with the Audited Accounts, and found them to be in order. Hence, it has approved the Other Finance Charges as Rs.29 crore for FY 2016-17.

**Table 4-46: Other Finance Charges for FY 2016-17 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Other Finance Charges | - | 29 | 29 |

## 4.14. Provision for Bad Debts for FY 2016-17

### MSEDCL's Submission

4.14.1. Regulation 73 and 82 of the MERC MYT Regulations, 2015 provides for the provision of bad and doubtful debts up to 1.5% of the amount shown as Trade Receivables or Receivables from Sale of Electricity excluding the provision made for unbilled revenue at the end of the year. MSEDCL has considered the provision for Bad and Doubtful Debts based on the last audited receivables for FY 2016-17 as given below:

**Table 4-47: Provision for Bad and Doubtful Debts for FY 2016-17 for Wires Business as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Provision for Bad Debt | 26 | 49 |
| Receivables | 1,722 | 3,277 |
| % of Receivables | 1.50% | 1.50% |

**Table 4-48: Provision for Bad and Doubtful Debts for FY 2016-17 for Supply Business as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Provision for Bad Debt | 232 | 442 |
| Receivables | 15,494 | 29,492 |
| % of Receivables | 1.50% | 1.50% |

4.14.2. MSEDCL submitted that the Public Water Works, Street Light and Agricultural categories of consumers constitute the highest quantum of arrears of the total quantum of arrears. Out of the three categories, agriculture category alone constitutes ~58% of the total arrears amounting to Rs. 19,271.57 crores as on March 31, 2017.

4.14.3. In reply to data gaps, MSEDCL stated that the Secured & Considered good amounts to Rs.4,137 Crore and Unsecured & Considered good amounts to Rs.28,630 Crore as shown in Note 9 of the Audited Accounts.

**Table 4-49: Receivables for FY 2016-17, as per MSEDCL (Rs. crore)**

| Note No. | Particulars | As per Audited Accounts (Rs. crore) | As per Petition (Rs. crore) |
|---|---|---|---|
| Note 9 | Secured & Considered good | 4,137 | |

| Note No. | Particulars | As per Audited Accounts (Rs. crore) | As per Petition (Rs. crore) |
|---|---|---|---|
| Note 9 | Unsecured & Considered good | 28,630 | |
| | **Total Receivables** | **32,768** | **32,768** |

**Commission's Analysis and Ruling**

4.14.4. The Commission has computed the provision for Bad Debts to be allowed for FY 2016-17 as per the Regulations 73 and 82 of the MYT Regulations, 2015 as shown below:

**Table 4-50: Provision for Bad Debts for FY 2016-17 as approved by Commission**

| Particulars | MSEDCL Petition | Approved in this Order |
|---|---|---|
| Receivables for the year (Rs. Crore) | 32,768 | 32,768 |
| Opening Balance of Provision of Bad and Doubtful Debt as % of Receivables | 1.50% | 1.50% |
| Provision for Bad & Doubtful Debts during the year (Rs. Crore) | 492 | 492 |

4.14.5. The provision for Bad Debts approved for FY 2016-17 is summarised as follows:

**Table 4-51: Summary of approved Provision for Bad Debts for FY 2016-17 (Rs crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Provision for Bad and Doubtful Debts | 258 | 492 | 492 |

## 4.15. Other Expenses for FY 2016-17

***MSEDCL's Submission***

4.15.1. MSEDCL has claimed 'Other Expenses' comprising expenditure on account of Non-Moving items written off, interest to suppliers/contractors, Incentive to distribution franchisee and other expenses viz. compensation for injuries to staff and outsiders. The break-up is as shown below:

**Table 4-52: Other Expenses for FY 2016-17 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Compensation for injuries, death to staff | 3 | 2 |
| Compensation for injuries, death to others | 7 | 10 |
| Non Moving Items | 2 | 8 |

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Interest to Suppliers/Contractors | 3 | 10 |
| Others | 1 | 27 |
| Interest to be given to consumers on the amount of refund of service line charges , ORC and meter cost | - | 113 |
| Expected Credit loss on other receivables | - | 43 |
| **Total** | **15** | **214** |

**Commission's Analysis and Ruling**

4.15.2. In reply to data gaps, MSEDCL has submitted details of Interest given to consumers on the amount of refund and the Expected Credit loss on other receivables in FY 2016-17.

4.15.3. The Commission has disallowed the Other Expenses shown under the heads of loss on obsolescence of Fixed Assets, intangible assets written-off and interest on Staff Welfare Fund, for the reasons elaborated in the Order 48 of 2016 dated November 3, 2016.

4.15.4. As regards, , the amount claimed towards 'interest to be given to consumers on the amount of refund of service line charges, ORC and meter cost', the Commission notes that the same has arisen on account of delay in implementation of the Commission's directive in the matter in the past by MSEDCL. Therefore, the same cannot be allowed to be passed on to the consumers.

4.15.5. The Commission has verified all other charges under this head with the Audited Accounts, and found them to be in order. The Commission approved the Other Expenses to the extent of Rs. 101 crore for FY 2016-17.

**Table 4-53: Other Expenses for FY 2016-17 as approved by the Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Compensation for injuries, death to staff | 3 | 2 | 2 |
| Compensation for injuries, death to others | 7 | 10 | 10 |
| Non Moving Items | 2 | 8 | 8 |
| Interest to Suppliers/Contractors | 3 | 10 | 10 |
| Others | 1 | 27 | 27 |
| Interest to be given to consumers on the amount of refund of service line charges, ORC and meter cost | 0 | 113 | - |
| Expected Credit loss on other receivables | 0 | 43 | 43 |

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| **TOTAL** | **15** | **214** | **101** |

### 4.16. Contribution to Contingency Reserves for FY 2016-17

**MSEDCL's Submission**

4.16.1. Considering its precarious financial condition and unavailability of sufficient funds to discharge its various liabilities, MSDEDCL submitted that it was not feasible for MSEDCL to make any contribution to Contingency Reserves. Accordingly, it has not been claimed contribution to contingency reserve in the ARR of FY 2016-17.

**Commission's Analysis and Ruling**

4.16.2. Regulation 34 of the MYT Regulations, 2015 provides for appropriation to the Contingency Reserve of not less than 0.25 per cent and not more than 0.5 per cent of the original cost of Fixed Assets annually towards in the calculation of ARR. The amount is to be invested in securities authorised under the Indian Trusts Act, 1882 within six months of the close of the financial year. MSEDCL has neither provisioned for any addition in Contingency Reserve in FY 2016-17 nor planned for investment within the timelines stipulated. Accordingly, for truing-up, taking into account MSEDCL's submissions and the considerations explained, the Commission has not considered any amount towards contribution to Contingency Reserve in FY 2016-17 either.

**Table 4-54: Contribution to Contingency Reserve as approved by Commission for FY 2016-17 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Contribution to Contingency Reserves | 108 | - | - |

### 4.17. Incentives and Discounts for FY 2016-17

**MSEDCL's Submission**

4.17.1. MSEDCL submitted that during FY 2016-17, it has paid Rs. 235 Crore of incentives/discounts to the consumers for timely payment of bills as against Rs.271 Crore approved by the Commission in its MYT Order dated 3 November 2016.

**Table 4-55: Incentives and Discoun ts for FY 2016-17 submitted by MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Incentives/Discounts | 271 | 235 |

**Commission's Analysis and Ruling**

4.17.2. The Commission has verified the incentive/discounts from the Audited Accounts and approved as actuals as submitted by MSEDCL for FY 2016-17.

**Table 4-56: Incentives and Discounts approved for FY 2016-17 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Incentives and Discounts | 271 | 235 | 235 |

## 4.18. RLC Fund for FY 2016-17

**MSEDCL's Submission**

4.18.1. During FY 2016-17, MSEDCL has refunded Rs.117 crore of Regulatory Liability Charge (RLC) as against the RLC Refund of Rs. 284 crore approved by Commission in its MYT Order.

**Commission's Analysis and Ruling**

4.18.2. The year-wise break-up of RLC refund, and the remaining balance as on 1 April 2016 are as follows:

**Table 4-57: RLC Refund collected and outstanding (Rs. Crore)**

| RLC Refund | Amount (Rs. crore) |
|---|---|
| FY 08-09 | 455 |
| FY 09-10 | 639 |
| FY 10-11 | 516 |
| FY 11-12 | 419 |
| FY 12-13 | 462 |
| FY 13-14 | 402 |
| FY 14-15 | 46 |
| FY 15-16 | 5 |
| FY 16-17 | 177 |

| RLC Refund | Amount (Rs. crore) |
|---|---|
| **Total** | **3,121** |
| **Balance RLC Refund** | **107** |

4.18.3. Under the Commission's directions in Order dated April 2, 2008 in Case Nos. 47 and 92 of 2007 on MSEDCL's Review Petition regarding refund of RLC, MSEDCL has to refund around Rs. 3,227 crore collected through RLC from December 2003 to September 2006.

4.18.4. The Commission has verified the RLC refund made by MSEDCL from the Audited Accounts, and considered the RLC refund as submitted by it for the purpose of truing up of FY 2016-17.

**Table 4-58: RLC Refund approved by Commission for FY 2016-17 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| RLC Refund | 284 | 177 | 177 |

### 4.19. Additional Supply Charge Refund for FY 2016-17

**MSEDCL's Submission**

4.19.1. MSEDCL has refunded Rs.5 crore of ASC during FY 2016-17 as per the Audited Accounts. MSEDCL further submits that as per the Order of the Commission dated 7th July 2017 in Case No. 101of 2016, MSEDCL has stopped the refund of ASC.

**Commission's Analysis and Ruling**

4.19.2. The Commission has verified the ASC Refund from audited accounts and considered the ASC Refund as submitted by MSEDCL for FY 2016-17.

**Table 4-59: ASC Refund approved by Commission for FY 2016-17 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| ASC Refund | - | 5 | 5 |

### 4.20. Past Period Adjustment for FY 2016-17

**MSEDCL's Submission**

4.20.1. MSEDCL submitted that in the MYT Order dated 3rd November 2016, the Commission has considered the Net Impact of Past Period and MSPGCL MYT Order in Case No. 46 of 2016 while approving the revenue from revised tariffs for the third Control Period. MSEDCL has accordingly considered the impact of the same in the respective year.

**Commission's Analysis and Ruling**

4.20.2. Commission has approved the past period adjustments as approved in the MYT Order

### 4.21. Income from Wheeling Charges for FY 2016-17

**MSEDCL's Submission**

4.21.1. MSEDCL had an income from Wheeling Charges of Rs. 2 crore during FY 2016-17 as against Rs. 5 Crore as approved by the Commission.

**Table 4-60: Income from Wheeling Charges for FY 2016-17 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Income from Wheeling Charges | 5 | 2 |

**Commission's Analysis and Ruling**

4.21.2. The Commission has verified the income from Wheeling Charges from the Audited Accounts and has considered them accordingly.

**Table 4-61: Income from Wheeling Charges approved for FY 2016-17 (Rs crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Income from Wheeling Charges | 5 | 2 | 2 |

### 4.22. Income from Open Access Charges

**MSEDCL's Submission**

4.22.1. MSEDCL submitted that it has received an income from OA Charges of Rs. 1,034 crore during FY 2016-17 as against Rs.599 Crore as approved by the Commission. MSEDCL has received Rs.435 Crore more income from Open Access Charges and the details of the same are provided in the following Table:

**Table 4-62: Details of Open Access charges**

| Particulars | Amount (Rs. Crore) |
|---|---|
| Energy Charges | 53.36 |
| F.C.A Charges | 0.69 |
| Additional Charges | 0.29 |
| Adjustment to past billing | -14.81 |
| PF Penalty | 19.33 |
| Cross Subsidy Surcharge | 524.81 |
| Wheeling Charge | 153.21 |
| Transmission Charge | 284.82 |
| Operating Charges | 12.44 |
| Transco Charges | 0.00 |
| **Total** | **1,034.15** |

**Table 4-63: Income from Open Access Charges FY 2016-17 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Income from Open Access Charges | 599 | 1,034 |

**Commission's Analysis and Ruling**

4.22.2. The Commission has approved the income from OA Charges as submitted by MSEDCL.

**Table 4-64: Income from OA Charges approved for FY 2016-17 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Income from Open Access Charges | 599 | 1,034 | 1,034 |

## 4.23. Revenue for FY 2016-17

**MSEDCL's Submission**

4.23.1. The total revenue in FY 2016-17 based on Audited Accounts was Rs. 57,601 Crore however, MSEDCL claims only Rs. 53,956 Crore. MSEDCL submitted that there was a reduction of around 755 MUs in HT Industrial Category sales which has impacted the revenue to that extent. Further, on account of lower actual collections pertaining to the various charges, impacts of power factor incentive and impact of past billing adjustments, the revenue from this category is lower than approved by the Commission.

4.23.2. The Wheeling Charges (around Rs. 2 Crore), Revenue from Trading of surplus power (Rs. 384 Crore), income from Open Access (Rs. 1,034 Crore) and income from additional surcharge (Rs. 116 Crore) are not included as they are not part of revenue from sale of power at retail tariff. These figures are shown separately in the ARR table. Similarly, Truing-up Adjustment of Rs. 2,343 Crore is also not considered in above table. Further, the Prompt Payment Discount as per the Audited Accounts is Rs.235 Crore, MSEDCL has considered the same under Incentives/Discounts separately.

**Table 4-65: Revenue for FY 2016-17 as per MSEDCL (Rs crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Revenue from Sale of Power | 59,284 | 53,956 |

**Commission's Analysis and Ruling**

4.23.3. The Commission verified the revenue from the Annual Accounts for FY 2016-17. The total revenue in FY 2016 was Rs. 57,601 crore, which comprises revenue from sale of power of Rs. 53,956 crore, as claimed by MSEDCL. The Commission has approved the revenue from sale of power accordingly.

**Table 4-66: Revenue for FY 2016-17 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Revenue from Sale of Power | 59,284 | 53,956 | 53,956 |

## 4.24. Income from Trading Surplus Power

**MSEDCL's Submission**

4.24.1. MSEDCL has received income of Rs.384 crore from trading of surplus power, as against NIL approved by the Commission.

**Table 4-67: Income from Trading Surplus for FY 2016-17 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Income from Trading Surplus | - | 384 |

**Commission's Analysis and Ruling**

4.24.2. The Commission has considered the income from trading of surplus power as submitted by MSEDCL.

4.24.3. MSEDCL has claimed Rs. 384 crore as income from trading of surplus power. The Commission has considered the income from trading of surplus power as submitted by MSEDCL.

**Table 4-68: Month-wise details of actual power traded, as submitted by MSEDCL**

| Month | Exchange Sell | | Bilateral Sell (Tenders) | |
|---|---|---|---|---|
| | MU | Rate/Unit | MU | Rate/Unit |
| Apr-16 | 79.43 | 2.86 | 2.75 | 3.15 |
| May-16 | 5.05 | 2.22 | 3.14 | 3.15 |
| Jun-16 | 18.18 | 2.36 | 3.17 | 3.15 |
| Jul-16 | 120.53 | 2.12 | 7.44 | 2.53 |
| Aug-16 | 34.71 | 2.05 | 13.74 | 2.48 |
| Sep-16 | 77.68 | 2.07 | 24.71 | 3.07 |
| Oct-16 | 98.56 | 2.12 | 2.80 | 3.15 |
| Nov-16 | 17.93 | 1.94 | 35.30 | 3.69 |
| Dec-16 | 10.00 | 2.16 | 164.80 | 3.63 |
| Jan-17 | 24.86 | 1.94 | 171.65 | 3.63 |
| Feb-17 | 0.00 | 0.00 | 145.76 | 3.65 |
| Mar-17 | 1.32 | 3.48 | 176.90 | 3.65 |
| **Total** | **488.26** | **2.23** | **752.16** | **3.59** |
| **Grand Total** | **1,240.42** | **3.05** | | |

**Table 4-69: Income from Trading Surplus for FY 2016-17 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Income from Trading Surplus | - | 384 | 384 |

## 4.25. Income from Additional Surcharge

***MSEDCL's Submission***

4.25.1. A comparison of the income from Additional Surcharge as per the information available and as approved by the Commission in MYT Order dated 3rd November 2016 is shown in the table below.

**Table 4-70: Income from Additional Surcharge for FY 2016-17, as submitted by MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Actual) |
|---|---|---|
| Income from Additional Surcharge | 284 | 116 |

***Commission's Analysis and Ruling***

4.25.2. For truing-up, the Commission approves the income from Additional Surcharge as per the Audited Accounts.

**Table 4-71: Income from Additional Surcharge for FY 2016-17, as approved by the Commission (Rs. Crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Approved in this Order |
|---|---|---|---|
| Income from Additional Surcharge | 284 | 116 | 116 |

### 4.26. Non-Tariff Income for FY 2016-17

***MSEDCL's Submission***

4.26.1. MSEDCL submitted that it has certain sources of Non-Tariff Income, viz. interest on arrears of consumers, DPC, interest on staff loans and advances, sale of scrap, interest on investments, rebate on power purchase, etc., Comparison of Non-Tariff Income as estimated by MSEDCL and as earlier approved by the Commission is presented in the Table below:

**Table 4-72: Non-Tariff Income as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Non-Tariff Income | 826 | 574 |

4.26.2. Further, as provided in the Regulation 36.3 of the MYT Regulations 2015, MSEDCL submitted that it has not considered delayed Payment Charge and Interest on Delayed Payment under Non-Tariff Income for FY 2016-17.

4.26.3. MSEDCL submitted that under UDAY Scheme, as per the MOU, Government of Maharashtra has taken over Medium-Term and Short-Term debt of Rs. 4,960 Crore (Being the 75% of Rs 6,613 Crore the debt of MSEDCL as on 30th September 2015). The debt has to be transferred to MSEDCL as Grant/loan as described in the following table:

| Year | Total Debt taken-over | Transfer to the DISCOM in the form of Grants (Rs. Cr.) | Transfer to the DISCOM in the form of Loan (Rs. Cr.) | Transfer to the DISCOM in the form of Equity (Rs. Cr.) | Outstanding State loan of the DISCOM (Rs. Cr.) |
|---|---|---|---|---|---|
| 2016-17 | 20% | 991.75 | 3,968 | - | 3,968 |
| 2017-18 | 20% | 992 | | | 2,976 |
| 2018-19 | 20% | 992 | | | 1,984 |
| 2019-20 | 20% | 992 | | | 992 |
| 2020-21 | 20% | 992 | | | - |
| | **Total** | **4,959.75** | | | |

4.26.4. MSEDCL submitted that, in the FY 2016-17 the short-term debt amounting to Rs. 4,959.75 Crore taken over and transferred to MSEDCL in the form of State loan. The same will be adjusted by way of grant from Govt. of Maharashtra to MSEDCL in equal ratio for next 4 years from F.Y. 2017-18 to F.Y. 2020-21 i.e. Rs 992 Crore per year as provided in the G.R. dated 31st March 2017 as shown above.

4.26.5. MSEDCL submitted that as per the nature of its business, it has to incur expenses on account of Interest on Working Capital Loan. However, the Commission allows expenses on this account only on the normative basis as per the provisions of MYT Regulations. The normative interest expenses allowed by the Commission are very much lower than the actual expenses incurred by MSEDCL.

4.26.6. MSEDCL further submitted that this amount of Rs.992 Crore received under UDAY scheme has been utilized for swapping of short-term loan. This has helped MSEDCL in reducing the gap between the actual interest expenses and the normative interest expenses to some extent; though the normative expenses allowed by the Commission are still lower than actual expenses even after the grant under UDAY scheme.

4.26.7. MSEDCL added that the benefit of lower Interest on Working Capital allowed is already built in tariff and hence MSEDCL has not considered this amount of Rs 992 Crore as part of non-tariff income so as to avoid the duplication.

**Commission's Analysis and Ruling**

4.26.8. The Commission has verified the claim by MSEDCL towards Non-Tariff Income from the Audited Accounts for FY 2016-17.

4.26.9. The Commission has not considered income from grants and contribution reported under non-tariff income amounting to Rs. 392 Crore, as the treatment to the same is already considered once while allowing depreciation for the FY 2015-16. The detail rationale for this treatment linked to accounting practice is elaborated under the section for depreciation in this chapter.

**Table 4-73: Non-Tariff Income for FY 2016-17, as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Non-Tariff Income | 826 | 574 | 182 |

### 4.27. Sharing of Efficiency Gains and Losses for FY 2016-17

**MSEDCL's Submission**

4.27.1. MSEDCL has considered the expense and revenue heads for FY 2016-17 taking the actual amounts as per the Audited Accounts. However, parameters such as O&M Expenses and IoWC, for which specific norms have been specified in the MYT Regulations, have been calculated on normative basis.

4.27.2. O&M Expenditure:

The actual O&M expenses as per the Audited Accounts for FY 2016-17 are lower than allowed on normative basis.

**Table 4-74: O&M Expenses Approved vs. Actual as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | FY 2016-17 Actual | Gain/ (Loss) | 1/3 of Efficiency Gains/ Losses retained by MSEDCL | 2/3 of Efficiency Gains/losses passed on to Consumers |
|---|---|---|---|---|---|
| O&M Expenses | 6,753 | 5,797 | 956 | 319 | 638 |

4.27.3. Interest on Working Capital:

IoWC expenses as per the Audited Accounts are higher than allowed on normative basis.

**Table 4-75: Interest on Working Capital Approved vs. Actual as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | FY 2016-17 Actual | Gain/ (Loss) | 2/3 of Efficiency Gains/ Losses retained by MSEDCL | 1/3 of Efficiency Gains/losses passed on to consumer |
|---|---|---|---|---|---|
| IoWC | 124 | 771 | (647) | (431) | (216) |

4.27.4. Distribution Loss:

The actual distribution loss in FY 2016-17 is 15.40% against a target of 17.76% set by the Commission in Case No. 48 of 2016. This efficiency loss has to be shared between MSEDCL and the consumers in accordance with the MERC (MYT) Regulations, 2015. Accordingly, MSEDCL has calculated the efficiency gain due to over-achievement of distribution loss reduction based on the actual average-billing rate of MSEDCL (per the methodology adopted by the Commission) in FY 2016-17.

**Table 4-76: Efficiency Loss due to higher Distribution Loss in FY 2016-17 as per MSEDCL**

| Particulars | Unit | Amount (Rs. crore) |
|---|---|---|
| Normative Distribution Losses | % | 17.76% |
| Actual Distribution Losses | % | 15.40% |
| Actual energy input | MU | 1,11,268 |
| Normative sales | MU | 91,506 |
| Actual sales | MU | 94,128 |
| Additional/ (lower) sales due to lower Distribution Loss | MU | 2,622 |
| Average Billing Rate | Rs/ kWh | 5 |
| Additional/ (lower) revenue due to higher Distribution Loss | Rs. crore | 1,414 |
| 1/3 of Efficiency Gains/(Losses) | Rs. crore | 471 |
| 2/3 of Efficiency Gains/(Losses) | Rs. crore | 942 |

4.27.5. MSEDCL submitted that the net impact of sharing of gains and losses is an increase in the ARR by Rs.49 crore. The total impact of sharing of gains and losses of various components is summarised in the following Table.

**Table 4-77: Net Impact of sharing of gains and losses FY 2016-17**

| Particulars | Amount (Rs. Cr) |
|---|---|
| O&M Expenses | (638) |
| Interest on Working Capital | 216 |

| Particulars | Amount (Rs. Cr) |
|---|---|
| Revenue due to Distribution Loss | 471 |
| **Total** | **49** |

**Commission's Analysis and Ruling**

4.27.6. Regulations 9, 10 and 11 of the MYT Regulations, 2015 specify the controllable and uncontrollable parameters, mechanism of pass-through of gains and losses on account of uncontrollable parameters, and the mechanism for their sharing on account of controllable parameters as follows:

> *"11.1 The approved aggregate gain to the Generating Company or Licensee or MSLDC on account of controllable factors shall be dealt with in the following manner:—*
>
> *(a) Two-third of the amount of such gain shall be passed on as a rebate in Tariff over such period as may be stipulated in the Order of the Commission under Regulation 8.4;*
>
> *(b) The balance amount of such gain shall be retained by the Generating Company or Licensee or MSLDC.*
>
> *11.2 The approved aggregate loss to the Generating Company or Licensee or MSLDC on account of controllable factors shall be dealt with in the following manner:—*
>
> *(a) One-third of the amount of such loss may be passed on as an additional charge in Tariff over such period as may be stipulated in the Order of the Commission under Regulation 8.4;*
>
> *(b) The balance amount of such loss shall be absorbed by the Generating Company or Licensee or MSLDC."*

4.27.7. As per the MYT Regulations 2015, two-thirds of the efficiency gain/ (loss) has been passed on to consumers and one-third allowed to be retained by MSEDCL. The summary of sharing of efficiency gains/(loss) on account of O&M Expenses, IoWC and Distribution Loss as approved by the Commission are shown in the Tables below:

**Table 4-78: Sharing of Gains/Loss on O&M and IoWC Expenses, approved by Commission (Rs. Crore)**

| Particulars | Approved in this Order | FY 2016-17 (Actual) | Gains/ (Loss) | 2/3 of Efficiency gains/Losses | 1/3 of Efficiency Gains/Losses | Net Entitlement after sharing |
|---|---|---|---|---|---|---|
| O&M Expenses | 6,655 | 5,797 | 858 | 572 | 286 | 6,083 |
| IoWC | 123 | 438 | (315) | (210) | (105) | 228 |

**Table 4-79: Sharing of Gains/Loss on O&M and IoWC Expenses, approved by Commission (Rs. Crore)**

| Particulars | Approved in this Order |
|---|---|
| MTR Approved Distribution Loss Trajectory | 15.95% |
| MYT approved Loss Trajectory | 13.50% |
| Projected Sales Excl. EHV sales | 86,252 |
| Projected EHV Sales | 5,480 |
| Projected Total Sales | 91,732 |
| Intra STS loss (Approved) | 3.63% |
| Power Requirement at Ex-Bus Periphery (Actual) | 112,171 |
| Power Requirement at Ex-Bus Periphery (Normative) | 109,155 |
| Additional/ (lower) Power purchase due to higher distribution loss | 3,016 |
| Marginal Variable Cost of Power Purchase | 3.43 |
| Additional Power purchase Cost due to higher distribution loss | 1,035 |
| Efficiency Loss to be retained by MSEDCL | 690 |
| Efficiency Loss to be borne by the consumers | 345 |

## 4.28. Segregation of Wires and Supply ARR

4.28.1. Regulation 68 of the MYT Regulations, 2015 outlines the requirement of separation of accounts of Distribution Licensee into Distribution Wires Business and Retail Supply Business. It also stipulates that, in the absence of separate accounting records, the Allocation Matrix specified in the Regulations should be used for apportioning the ARR.

> *"68. Separation of Accounts of Distribution Licensee –*
> *Every Distribution Licensee shall maintain separate accounting records for the Distribution Wires Business and Retail Supply Business and shall prepare an Allocation Statement to enable the Commission to determine the Tariff separately for:—*

*(a) Distribution Wires Business;*
*(b) Retail Supply of electricity:*

*Provided that in case complete accounting segregation has not been done between the Distribution Wires Business and Retail Supply Business of the Distribution Licensee, the Aggregate Revenue Requirement of the Distribution Licensee shall be apportioned between the Distribution Wires Business and Retail Supply Business in accordance with the following Allocation Matrix:*

*…Provided further that the above Allocation Matrix shall be applied for all or any of the heads of expenditure and revenue, where actual accounting separation has not been done between the Distribution Wires Business and Retail Supply Business;*

*...Provided also that the Commission may require the Distribution Licensee to file separate Petitions for determination of Tariff for the Distribution Wires Business and Retail Supply Business"*

4.28.2. The Allocation Matrix specified in the Regulations for segregation of expenses is as follows:

**Table 4-80: Allocation Matrix for Retail Supply and Wires Business Expenses**

| Particulars | Distribution Wires Business | Retail Supply Business |
|---|---|---|
| Power Purchase Expenses | 0% | 100% |
| Operation & Maintenance Expenses | 65% | 35% |
| Depreciation | 90% | 10% |
| Interest on Long-term Loan Capital | 90% | 10% |
| Interest on Working Capital | 10% | 90% |
| Interest on Consumer Security Deposits | 10% | 90% |
| Provision for Bad and Doubtful Debts | 10% | 90% |
| Income Tax | 90% | 10% |
| Contribution to Contingency Reserves | 90% | 10% |
| Return on Equity | 90% | 10% |
| Non-Tariff Income | 10% | 90% |
| Inter-State Transmission Charges | 0% | 100% |
| Intra-State Transmission Charges | 0% | 100% |

## 4.29. Aggregate Revenue Requirement for FY 2016-17

4.29.1. Based on the analysis, the summary of ARR for the Wires Business and Supply Business, as claimed by MSEDCL and as trued-up by the Commission, for FY 2016-17 is presented in the Tables below.

**Table 4-81: ARR for Wires Business for FY 2016-17 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Operation & Maintenance Expenses | 3,843 | 4,389 | 4,326 |
| Depreciation | 1,856 | 1,839 | 1,821 |
| Interest on Loan Capital | 1,743 | 1,441 | 1,429 |
| Interest on Working Capital | 124 | 129 | 125 |
| Interest on Deposits from Consumers and Distribution System Users | 69 | 70 | 60 |
| Other Finance Charges | 0 | 26 | 26 |
| Provision for Bad and Doubtful Debts | 26 | 49 | 49 |
| Contribution to Contingency Reserves | 97 | 0 | 0 |
| **Total Revenue Expenditure** | **7,758** | **7,944** | **7,837** |
| Return on Equity Capital | 1,423 | 1,571 | 1,500 |
| **Aggregate Revenue Requirement** | **9,181** | **9,515** | **9,336** |
| Less: | | | |
| Income from Wheeling Charges | 5 | 2 | 2 |
| Income from Open Access Charges | 599 | 1,034 | 1,034 |
| **Aggregate Revenue Requirement from Distribution Wires** | **8,577** | **8,478** | **8,300** |

**Table 4-82: ARR for Supply Business for FY 2016-17 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Power Purchase Expenses (incl. Inter-State Transmission Charges) | 43,754 | 43,826 | 43,826 |
| Operation & Maintenance Expenses | 2,069 | 2,364 | 2,329 |
| Depreciation | 206 | 204 | 202 |
| Interest on Loan Capital | 194 | 160 | 159 |
| Interest on Working Capital | 0 | 642 | 0 |
| Interest on Deposits from Consumers and Distribution System Users | 619 | 534 | 543 |
| Other Finance Charges | 0 | 3 | 3 |
| Provision for Bad and Doubtful Debts | 232 | 442 | 442 |

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Other Expenses | 15 | 214 | 101 |
| Intra-State Transmission Charges, incl. MSLDC Fees & Charges | 4,611 | 3,793 | 3,793 |
| Contribution to Contingency Reserves | 11 | 0 | 0 |
| Incentives/Discounts | 271 | 235 | 235 |
| DSM expenses | 2 | 13 | 13 |
| **Total Revenue Expenditure** | **51,985** | **52,430** | **51,646** |
| Return on Equity Capital | 179 | 197 | 167 |
| **Aggregate Revenue Requirement** | **52,163** | **52,627** | **51,813** |
| RLC refund | 284 | 177 | 177 |
| ASC refund | 0 | 5 | 5 |
| Less: | | | |
| Non-Tariff Income | 826 | 574 | 182 |
| Income from Additional Surcharge | 284 | 116 | 116 |
| **Aggregate Revenue Requirement from Retail Supply** | **51,337** | **52,118** | **51,696** |

**Table 4-83: ARR for FY 2016-17 (Wires + Supply) as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Power Purchase Expenses | 43,754 | 43,826 | 43,826 |
| Operation & Maintenance Expenses | 5,912 | 6,753 | 6,655 |
| Depreciation Expenses | 2,063 | 2,043 | 2,023 |
| Interest on Loan Capital | 1,937 | 1,602 | 1,588 |
| Interest on Working Capital | 124 | 771 | 125 |
| Interest on Deposits from Consumers and Distribution System Users | 688 | 603 | 603 |
| Other Finance Charges | 0 | 29 | 29 |
| Provision for Bad and Doubtful Debts | 258 | 492 | 492 |
| Other Expenses | 15 | 214 | 101 |
| Intra-State Transmission Charges and MSLDC Charges | 4,611 | 3,793 | 3,793 |
| Incentives/Discounts | 271 | 235 | 235 |
| Contribution to Contingency Reserves | 108 | 0 | 0 |
| DSM expenses | 2 | 13 | 13 |
| **Total Revenue Expenditure** | **59,743** | **60,373** | **59,483** |
| Return on Equity Capital | 1,602 | 1,768 | 1,666 |
| **Aggregate Revenue Requirement** | **61,344** | **62,141** | **61,149** |
| RLC refund | 284 | 177 | 177 |

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| ASC refund | 0 | 5 | 5 |
| Effect of Provisional sharing of gains/losses | (1,030) | 49 | (1,158) |
| Less: | | | |
| Non-Tariff Income | 826 | 574 | 182 |
| Income from Wheeling Charges | 5 | 2 | 2 |
| Income from Open Access Charges | 599 | 1,034 | 1,034 |
| **Aggregate Revenue Requirement from Retail Tariff** | **59,169** | **60,762** | **58,955** |
| Revenue from Sale of Power | 59,284 | 53,956 | 53,956 |
| Income from Trading of Surplus Power | 0 | 384 | 384 |
| Income from Additional Surcharge | 284 | 116 | 116 |
| Past Period Adjustment by Commission | 399 | 399 | 399 |
| **Revenue Gap/(Surplus)** | **-** | **6,704** | **4,897** |

# 5. PROVISIONAL TRUE-UP FOR FY 2017-18

## 5.1. Provisional Sales for FY 2017-18

***MSEDCL's Submission***

5.1.1. MSEDCL has submitted that the actual sales for FY 2017-18 as per provisional information available excluding two franchisees (Bhiwandi and Nagpur) as shown in the table below:

**Table 5-1: Category wise Sales for FY 2017-18**

| Category | MYT Order | Provisional | Deviation |
|---|---|---|---|
| Residential | 20,840 | 18,826 | (2,014) |
| Commercial | 7,280 | 6,923 | (357) |
| HT-Industries | 24,934 | 28,110 | 3,176 |
| LT-Industries | 9,149 | 6,488 | (2,661) |
| PWW | 2,553 | 2,237 | (316) |
| Street Light | 1,965 | 1,762 | (203) |
| Agriculture | 25,101 | 29,659 | 4,558 |
| Public Services | 1,403 | 1,384 | (19) |
| Railways | 77 | 59 | (18) |
| Others | 1454 | 1426 | (28) |
| **Total** | **94,756** | **96,873** | **2,117** |

5.1.2. MSEDCL has submitted that in the MYT Order dated 3rd November 2016, the Commission had merged the sales of Bhiwandi DF area with the MSEDCL sales. However, MSEDCL has submitted the sales for FY 2017-18 excluding the two Franchisee (Bhiwandi and Nagpur). Therefore, there is a difference in the actual sales compared to the approved sales.

5.1.3. MSEDCL has justified that majority of power loom consumption is from Bhiwandi DF Area, which is the reason for reduction in LT industrial category sales. However, increase in HT industrial sales in comparison to those approved is due to decrease in OA sales.

5.1.4. Considering the above, MSEDCL has submitted that the provisional sales works out to 96,873 MUs as compared to 94,756 MUs approved by the Commission.

***Commission's Analysis and Rulings***

5.1.5. As regards the Agriculture Category, the Commission has re-estimated the AG Index (kWh/HP/Annum) based on circle wise feeder level data provided by MSEDCL for FY 2017-18. The rationale and methodology for estimation of AG index has been elaborated in the earlier chapter of this Order. Accordingly, the following table summarises MSEDCL's submission and the approved figures of AG Energy Sales, consumers, connected load and AG indices for FY 2017-18.

**Table 5-2: AG Sales for FY 2017-18, as approved by Commission**

| Particulars | MSEDCL Petition | Approved in this Order |
|---|---|---|
| **No. of Consumers (In lakh)*** | | |
| Un-Metered | 15.11 | 15.11 |
| Metered | 25.95 | 25.95 |
| **Total** | **41.06** | **41.06** |
| **Connected Load (in lakh HP)*** | | |
| Un-Metered | 75.44 | 75.37 |
| Metered | 131.49 | 135.45 |
| **Total** | **206.93** | **210.82** |
| **Energy Sales (MU)** | | |
| Un-Metered | 11,090 | 10,914 |
| Metered | 18,445 | 17,699 |
| **Total** | **29,536** | **28,613** |
| **AG Index (kWh/HP/Annum)** | | |
| Un-Metered | 1,470 | 1,448 |
| Metered | 1,403 | 1,307 |
| **Total** | **1,427** | **1,357** |
| **AG Index (Hours/Annum)** | | |
| Un-Metered | 1,971 | 1,941 |
| Metered | 1,881 | 1,752 |
| **No. of Consumers (In lakh)*** | | |

5.1.6. In the MYT Order, the Commission had merged the sale of Bhiwandi DF area from FY 2017-18 onwards with the MSEDCL sales since extension of Franchisee agreement was due and pending for extension as envisaged in the DF agreement. On query regarding the finalisation of extension of agreement, MSEDCL has clarified that it had renewed and extended the DF agreement for Bhiwandi Circle on 2nd December for 10 years i.e. upto 25th January, 2027 in pursuance of the Article 3.2 of DF agreement.

5.1.7. Considering the revision in the approved Agricultural sales, the approved total sales for MSEDCL have been revised as shown in the table below:

**Table 5-3: Sales approved by Commission (MUs) for FY 2017-18**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| **HT Sales** | | | |
| HT Sales - MSEDCL | 31,731 | 33,918 | 33,918 |
| **LT Sales** | | | |
| LT Sales - Excluding AG Sales | 37,924 | 33,296 | 33,296 |
| LT Sales - AG Sales | 25,101 | 29,659 | 28,737 |
| **MSEDCL Sales(HT and LT)** | **94,756** | **96,873** | **95,951** |
| Energy Sales in DF Areas | 1,450 | 4,437 | 4,437 |
| HT Sales - Open Access (Conventional) | 6,412 | 4,330 | 4,330 |
| HT Sales - RE Open Access and HT Credit | 420 | 679 | 679 |
| **Total Energy Sales (including DF Areas, Open Access and Credit Sales)** | **1,02,618** | **1,06,319** | **1,05,397** |

## 5.2. Energy Balance for FY 2017-18

***MSEDCL's Submission***

5.2.1. The quantum of sales in MUs shown in Table below represents the sales of MSEDCL excluding the sales in the area served by Distribution Franchisees. However, while calculating energy balance of MSEDCL as a whole, the sale to the consumers of the Distribution Franchisee area has also been considered. Since the Distribution Franchisee is an agent to MSEDCL as per the Franchisee Agreement, MSEDCL has to consider the loss within the Franchisee area for Energy balance. Therefore, energy available for sale for FY 2017-18 is computed as below:

**Table 5-4: Energy Available for Sale for FY 2017-18 as submitted by MSEDCL (MU)**

| Particulars | FY 2017-18 (Approved) | FY 2017-18 (Provisional) |
|---|---|---|
| Energy Sales by MSEDCL for FY 2017-18 | 94,756 | 96,873 |
| Add: Category wise sales in DF area | 1,450 | 4,437 |
| Add: OA Sales (Conventional) | 6,412 | 4,330 |
| Add: Renewable OA | 420 | 679 |
| **Total Energy sales MSEDCL** | **1,03,038** | **1,06,320** |

5.2.2. MSEDCL submitted that MSEDCL is procuring power from various Sources including MSPGCL, CGS including nuclear power plants, Traders, IPPs, CPP and Renewable Sources. It is very difficult to differentiate which power is coming from which source at Transmission periphery. Hence, an average inter-state loss for the whole year is considered for power sourced from outside the State of Maharashtra. The said loss is calculated in Energy Balance only.

5.2.3. MSEDCL also submitted that data of metered energy is available at 3 points: at bus-bar of the generating station, at T <> D interface i.e. at Distribution Periphery and sales at consumer end. It is further stated that to calculate Distribution Loss, it considered metered energy at Distribution periphery and sales at consumer end.

5.2.4. MSEDCL further submitted that the TAPS (NPCIL) and EMCO Power Plants are connected to CTU and therefore, considered as Inter-State sources.

5.2.5. With reference to the justification of the 'Surplus Energy Traded' given, MSEDCL submitted that for FY 17-18, it has considered the actual figures. The quantum of 580 MUs shown under 'Surplus Energy Traded' is the actual energy traded by MSEDCL during FY 17-18.

5.2.6. MSEDCL has considered the average of transmission losses for last 52 weeks provided by WRLDC as on March 18, 2018 as the Inter State Transmission Loss. Accordingly, considering the inter-state transmission losses at 3.47 %, MSEDCL has derived Intra-State losses as power purchase, sales and energy at Distribution Periphery all are metered figures in this petition.

5.2.7. As per latest data available, UI for FY 2017-18, MSEDCL has considered as (1359) MUs.

5.2.8. Considering the above energy available for sale for FY 2017-18 as shown, the energy balance for MSEDCL is calculated. The following table shows the provisional energy balance for FY 2017-18 as submitted by MSEDCL.

**Table 5-5: Energy Balance for FY 2017-18 as submitted by MSEDCL**

| Particulars | Units | FY 2017-18 (Approved) | FY 2017-18 (Provisional) |
|---|---|---|---|
| LT sales | MUs | 64,294 | 66,523 |
| HT sales | MUs | 25,575 | 27,082 |
| Renewable Open Access | MUs | 420 | 679 |

| Particulars | Units | FY 2017-18 (Approved) | FY 2017-18 (Provisional) |
|---|---|---|---|
| Sales to Open Access Consumers (Conventional) | MUs | 6,412 | 4,330 |
| **Total Sales to Consumers** | **MUs** | **96,701** | **98,614** |
| Distribution Loss | % | 16.26% | 14.84% |
| Distribution Loss | MUs | 17,941 | 17,185 |
| **Total Energy Available for Sale at 33kV** | **MUs** | **1,14,642** | **1,15,799** |
| Energy injected and drawn at 33kV | MUs | 458 | 488 |
| **Net Energy Available for Sale at 33kV** | **MUs** | **1,14,184** | **1,15,311** |
| EHV Sales | MUs | 6,341 | 7,705 |
| **Net Energy requirement at T<>D Periphery** | **MUs** | **1,20,525** | **1,23,016** |
| Intra-State Transmission Loss | % | 3.92% | 3.49% |
| Intra-State Transmission Loss | MUs | 4,917 | 4,443 |
| **Energy Requirement at G<>T Periphery** | **MUs** | **1,25,442** | **1,27,459** |
| Input for OA consumption | MUs | (7,099) | (4,606) |
| Power Traded | % | - | 580 |
| **Net Energy Requirement at G<>T Periphery** | **MUs** | **1,18,343** | **1,23,433** |
| Power Purchase Quantum from Intra-State sources | MUs | 87,001 | 81,627 |
| Power Purchase Quantum from Inter-State sources at MS Periphery | MUs | 31,342 | 41,806 |
| Inter-State Losses | % | 3.66% | 3.47% |
| Power Purchase Quantum from Inter-State sources | MUs | 32,533 | 43,307 |
| **Total Power Purchase Quantum payable** | **MUs** | **1,19,533** | **1,24,934** |

5.2.9. MSEDCL further submitted that the FBSM has not been finalized after May 2016. Therefore, MSEDCL requested the Commission to direct SLDC to finalize the FBSM on regular basis so the exact impact of the quantum as well as cost can be considered in Tariff Petitions.

5.2.10. MSEDCL requested the Commission to approve the Energy Balance for FY 2017-18 as submitted by MSEDCL in above table.

***Commission's Analysis and Ruling***

5.2.11. The Energy Balance submitted by MSEDCL for FY 2017-18 is as per the format F1.4 approved for third Control period, in which Distribution Loss has been estimated excluding EHV sales.

5.2.12. In reply to a query on reconciliation with FBSM bills, MSEDCL stated that FBSM bills for FY 2017-18 are not available and reconciliation can be possible only after the entire year's FBSM bills become available. Moreover, while submitting the above revised Energy Balance, MSEDCL had stated that the units shown towards FBSM of 1359 MU is based on extrapolation of past data available. To arrive at the Inter-State Loss level for FY 2017-18 of 3.47%, MSEDCL has considered the Inter-State Loss as the average of such Transmission Losses for 52 weeks in FY 2017-18 as provided by WRLDC. However, as regards Intra-State losses, the commission has considered the InSTS loss of 3.30% for FY 2017-18 as per actual losses reported by SLDC which is also reported under "Monthly State Transmission Loss Statement" issued by SLDC. Thus for the provisional approval of Energy Balance, the units towards FBSM have been taken as 1359 MU, based on the submission by MSEDCL.

5.2.13. Based on the revised estimate of LT Sales by the Commission, the approved sales including the DF sales and OA sale as available for the Energy Balance of FY 2017-18 are as shown below:

**Table 5-6: Energy Sales for Energy Balance of FY 2017-18 as approved by Commission**

| Particulars | MYT Order | MTR Petition | Approved in this Order |
|---|---|---|---|
| Energy Sales by MSEDCL for FY 2017-18 | 94,756 | 96,873 | 1,00,388 |
| Add: Category wise sales in DF area | 1,450 | 4,437 | |
| Add: OA Sales (Conventional) | 6,412.00 | 4,330 | 4,330 |
| Add: Renewable OA | 420 | 679 | 679 |
| **Total Energy sales MSEDCL** | **1,03,038** | **1,06,320** | **1,05,397** |

5.2.14. The Energy Balance reported by MSEDCL and approved by the Commission for FY 2017-18 is presented in the Table below. The difference in the Energy Balance claimed by MSEDCL and that approved by the Commission is mainly on account of the difference in LT Sales approved by the Commission vis-à-vis that claimed by MSEDCL as part of the total Energy Sales.

5.2.15. The Commission has considered the Conventional Open Access Sales and Renewable Open Access Sales as submitted by the MSEDCL. The data has been verified from the submissions made in response to queries raised. Accordingly, the submission by MSEDCL towards Open Access Sales is found to be order.

5.2.16. MSEDCL has submitted that the information about energy injected and drawn at 33 kV is maintained at Circle offices and the same was reported under the energy balance. The Commission has considered the same.

5.2.17. MSEDCL was asked to submit the month-wise details of the surplus energy traded for FY 2017-18 in terms of Quantum, Average rates and mode of sale, i.e., through Exchange or Bilateral. MSEDCL has submitted the data in the required format based on actuals up to November 2017 and extrapolated for the remaining months. Based on the data submitted by MSEDCL, the Commission had considered 579.96 MU of surplus energy traded for FY 2017-18.

5.2.18. MSEDCL further submitted that the Energy at Distribution Periphery injected and drawn at 33 kV is renewable energy and is already a part of RE power considered in Form 2 (Power purchase expense). Hence, for the purpose of Energy Balance, the commission has deducted the RE power, in arriving at Total power quantum handled at G<>T periphery (*Sr. No.16 of Energy Balance table shown below*), as the RE component is shown separately (*Sr. No. 24 of Energy Balance table shown below*).

5.2.19. The Distribution Losses arrived at in the Energy Balance are consequent to the above changes.

**Table 5-7: Energy Balance for FY 2017-18 as approved by the Commission**

| Sr. No. | Particulars | Calculation | UoM | FY 2017-18 | | |
|---|---|---|---|---|---|---|
| | | | | MYT Order | MTR Petition | Approved in this Order |
| 1 | Agriculture Sales (Including D.F) | a | MU | 64,294 | 66,523 | 28,746 |
| 2 | LT Sales excluding Agriculture Sales (Including D.F) | b | MU | | | 36,854 |
| 3 | HT Sales excluding EHV level sales (Including D.F) | c | MU | 25,575 | 27,082 | 27,082 |
| **4** | **Total Sales including D.F (Excluding EHV Sales)** | **d=a+b+c** | **MU** | **89,869** | **93,605** | **92,683** |
| 5 | OA Sales (Renewables) | e | MU | 420 | 679 | 679 |
| 6 | OA Sales (Conventional) | f | MU | 6,412 | 4,330 | 4,330 |
| **7** | **Retail Energy Sale to Consumers (Excluding EHV Sales)** | **A=d+e+f** | **MU** | **96,701** | **98,614** | **97,692** |
| | | | | | | |
| **8** | **Total Power Purchase** | **B=g+h** | **MU** | **1,19,992** | **1,25,422** | **1,25,422** |
| 9 | *Power Purchase Quantum from Intra-State sources* | g | MU | 87,459 | 82,115 | 82,115 |
| 10 | *Power Purchase Quantum from Inter-State sources* | h | MU | 32,533 | 43,307 | 43,307 |
| **11** | **Inter-State Losses** | **i** | **%** | **3.66%** | **3.47%** | **3.47%** |

| Sr. No. | Particulars | Calculation | UoM | FY 2017-18 | | |
|---|---|---|---|---|---|---|
| | | | | MYT Order | MTR Petition | Approved in this Order |
| 12 | *Power Purchase Quantum from Inter-State sources at MS Periphery* | j=h*(1-i) | MU | 31,342 | 41,806 | 41,806 |
| **13** | **Power Quantum handled at Maharashtra Periphery** | **k=g+j** | **MU** | **1,18,801** | **1,23,921** | **1,23,921** |
| | | | | | | |
| 14 | Infirm Non-PPA Wind Power | l | MU | - | - | - |
| 15 | Input for OA Consumption | m=f/(1-6%) | MU | 7,099 | 4,606 | 4,606 |
| **16** | **Total Power Purchase Quantum Handled** | **n=k+l+m-v** | **MU** | **1,25,442** | **1,28,039** | **1,28,039** |
| 17 | Surplus Power Traded | o | MU | - | 580 | 580 |
| **18** | **Energy Requirement at G<>T Periphery** | **p=n-o** | **MU** | **1,25,442** | **1,27,459** | **1,27,459** |
| | | | | | | |
| **19** | **Intra-State Transmission Loss** | **q** | **%** | **3.92%** | **3.49%** | **3.30%** |
| **20** | Intra-State Transmission Loss | r=p*q | MU | 4,917 | 4,443 | 4,206 |
| 21 | Net Energy requirement at T<>D Periphery | s=p-r | MU | 1,20,525 | 1,23,016 | 1,23,253 |
| 22 | EHV Sales | t | MU | 6,341 | 7,705 | 7,705 |
| 23 | Net Energy Available for Sale at 33kV | u=s-t | MU | 1,14,184 | 1,15,311 | 1,15,548 |
| 24 | Energy injected and drawn at 33kV | v | MU | 458 | 488 | 488 |
| **25** | **Total Energy Available for Sale at 33kV** | **C=u+v** | **MU** | **1,14,642** | **1,15,799** | **1,16,036** |
| | | | | | | |
| 26 | **Distribution Loss** | D=C-A | MU | **17,941** | **17,185** | **18,344** |
| 27 | **Distribution Loss** | **E=D/C** | **%** | **16.26%** | **14.84%** | **15.81%** |

## 5.3. Distribution Loss for FY 2017-18

***MSEDCL's Submission***

5.3.1. In MYT Order dated 3rd November 2016, in Case No. 48 of 2016, the Commission has approved distribution loss excl. EHV of 16.26%. As per the provisional information available for FY 2017-18, the distribution loss has been shown below.

**Table 5-8: Distribution Loss for FY 2017-18 as submitted by MSEDCL**

| Particulars | FY 2017-18 (Approved) | FY 2017-18 (Provisional) | Deviation |
|---|---|---|---|
| Distribution Loss | 16.26% | 14.84% | -1.42% |

5.3.2. MSEDCL requested the Commission to approve the Distribution Loss.

***Commission's Analysis and Ruling***

5.3.3. The Commission had stipulated the trajectory for reduction of Distribution Loss in its MYT Order for third control period in Case No. 48 of 2016. Based on the revised formats and methodology for computation of Distribution Loss by considering the sales at the distribution periphery excluding EHV sales, the Distribution Loss level stipulated for FY 2017-18 was 16.26%. That formed the basis for estimated approval of the Energy Balance in the MYT Order for that year. However, MSEDCL now has submitted a Distribution Loss level of 14.84% for FY 2017-18 which is lower than the estimated target.

5.3.4. The Commission has now approved revised Energy Sales of 105,397 MU for FY 2017-18 against the claim of 106,320 MU. Based on this, the approved Distribution Loss for FY 2017-18 is as shown in the Table below:

**Table 5-9: Distribution Loss for FY 2017-18 as approved by the Commission**

| Particulars | MYT Order | MTR Petition | Approved in this Order |
|---|---|---|---|
| Distribution Loss | 16.26% | 14.84% | 15.81% |

## 5.4. Power Purchase Expense for FY 2017-18

***MSEDCL's Submission***

5.4.1. MSEDCL has following sources of firm power viz.

- Maharashtra State Power Generation Company Limited (MSPGCL)
- Purchase from Central Generating Stations
- JSW (Ratnagiri)
- Mundra UMPP CGPL
- Adani Power Limited
- RattanIndia Limited
- Emco Power Limited etc.

5.4.2. MSEDCL also buys power from other sources such as Sardar Sarovar and Pench Hydro project, renewable sources including co-generation, Wind power and Solar.

5.4.3. In addition to the above sources, in case of any shortfall from approved sources, when demand exceeds availability or for cost optimization, MSEDCL sources power from exchange/Traders or other sources at the market price through competitive bidding in accordance with the Guidelines of MoP.

5.4.4. **MSPGCL**: Units 3, 4 & 5 of Bhusawal stations were not ranked among MOD stack, however, due to demand hike, power was scheduled from such units during FY 2017-18.

**NTPC**: Due to high power demand during some period of 2017-18, the quantum of power procured from NTPC stations is increased. Moreover, the cost of stations like Mauda II and Solapur are higher, hence there is an increase in overall power purchase cost of NTPC stations. Moreover, the impact of refund by NTPC of Rs. 673.90 Crore. has been considered thereby reducing the cost to that extent.

**IPPs:** The power from RIPL was scheduled during 2017-18 which was scheduled in MoD by the Commission.

**NPCIL**: Lower than approved generation was available from the plant at TAP 1-2 and TAP 3-4 was available.

Except RIPL, there is decline in power procurement from other stations. Due to coal shortages, power from APML 1320 & 440 plants was not available up to normative availability.

**Renewable Energy**: MSEDCL submitted that in order to meet RPO obligation, it is procuring RE power from various sources like wind, small hydro, solar, etc. The total quantum of Non Solar RE power procured was 10,239 MU at the rate of Rs. 5.48 per unit and Solar RE power of 808 MU at the rate of Rs. 7.90 per unit. Further, a provision is made towards REC purchase for meeting shortfall in Non-Solar RPO Target.

5.4.5. A comparison of source-wise power purchase quantum and expenses as per the provisional information available for FY 17-18 and as approved by Commission in MYT order dated 3rd November 2016 in Case No. of 2016 is shown in the table below.

**Table 5-10: Power Purchase for FY 2017-18 as submitted by MSEDCL**

| Sources | MERC Approved | | MSEDCL Provisional | | Deviation | |
|---|---|---|---|---|---|---|
| | Quantum (MUs) | Cost (Rs. Crs) | Quantum (MUs) | Cost (Rs. Crs) | Quantum (MUs) | Cost (Rs. Crs) |
| MSPGCL | 42,185 | 17,741 | 48,843 | 18,625 | 6,658 | 884 |
| NTPC | 24,931 | 7,084 | 30,116 | 8,243 | 5,185 | 1,158 |
| NPCIL | 6,950 | 1,741 | 2,589 | 758 | (4,361) | (983) |
| SSP | 1,210 | 248 | 246 | 50 | (964) | (198) |
| Pench | 136 | 28 | 51 | 10 | (86) | (18) |
| Dodson | 116 | 26 | 83 | 22 | (33) | (4) |
| JSW | 1,934 | 505 | 1,899 | 548 | (35) | 43 |
| CGPL | 5,158 | 1,222 | 4,990 | 1,275 | (168) | 53 |

| Sources | MERC Approved | | MSEDCL Provisional | | Deviation | |
|---|---|---|---|---|---|---|
| | Quantum (MUs) | Cost (Rs. Crs) | Quantum (MUs) | Cost (Rs. Crs) | Quantum (MUs) | Cost (Rs. Crs) |
| Adani Power | 20,601 | 7,096 | 17,257 | 6,159 | (3,344) | (937) |
| EMCO Power | 1,370 | 465 | 1,261 | 532 | (109) | 68 |
| Rattan India | - | 904 | 4,347 | 2,150 | 4,347 | 1,246 |
| Renewable | 14,942 | 8,542 | 11,046 | 6,245 | (3,896) | (2,297) |
| PGCIL Charges | - | 2,356 | | 2,559 | - | 203 |
| Traders | | | 4,056 | 1,495 | 4,056 | 1,495 |
| FBSM | - | | (1,359) | (267) | (1,359) | (267) |
| Renewable Energy Certificates | | | | 689 | - | 689 |
| Others | | | | 36 | - | 36 |
| **Total Power Purchase** | **1,19,533** | **47,958** | **1,25,422** | **49,130** | **5,890** | **1,172** |

5.4.6. MSEDCL stated that there has been increase in the power purchase quantum and cost due to increase in sales. Further, while approving the power purchase for FY 17-18 on the basis of MoD Principles, the issue of transmission constraint was not considered. Due to this, despite of higher cost in the in MOD stack, MSEDCL has to procure costly power in MOD stack due to requirement of technical minimum load; transmission constraint etc. and thus the actual power purchase cost is more than approved. Further, 4055 MUs of short term power has been procured which was not anticipated in MYT Order.

5.4.7. MSEDCL added that the Commission has approved the Power Purchase quantum and cost for NPCIL Generating Stations as submitted by MSEDCL. However, while allowing the Power Purchase from TAPP 3 & 4, the Commission has considered 4,711 MUs for FY 17-18 instead of 3,232 MUs. The Commission, in its order dated 20th November 2017 in MSEDCL's Review Petition has accepted the error. The same has been corrected.

5.4.8. MSEDCL also submitted that the Kakrapar Nuclear Plant is on outage from Apr 2016. Due to these reasons, there is reduction of 3838 MUs from NPCIL.

5.4.9. Regarding procurement from RE sources, MSEDCL mnentioned that the Commission in the MYT Order had approved the power purchase from the renewable energy sources to meet the RPO Targets specified under the RPO Regulations, 2016. MSEDCL has executed long-term Energy Purchase Agreements (EPAs) with RE Generators, but the actual RE generation is not as per the expected Capacity Utilisation Factor (CUF).

Further, the Gross Energy Consumption (GEC) is constantly increasing in line with the load growth and also the RPO targets, but corresponding RE capacity addition is not taking place.

***Commission's Analysis and Ruling***

5.4.10. The MoP, vide Resolution dated 15 May 2012, had issued Guidelines for short-term power procurement by Distribution Licensees through tariff-based competitive bidding. Hence, the Commission had directed MSEDCL to procure all short-term power with the above said issued guidelines through competitive bidding route. Accordingly, the Commission approved a ceiling rate of Rs. 4.00 per kWh for power procurement from short-term sources over the 3rd Control Period in Case No. 48 of 2016. The MSEDCL has submitted the month wise short-term power procured with the monthly average rate and quantum for FY 2017-18. The average yearly short-term procurement computed is well below the ceiling norm of Rs. 4.00 per kWh. Hence, the Commission finds it to be in order and approves the short-term power purchase.

5.4.11. MSEDCL was asked for samples of Supplementary bills of NTPC and NPCIL stations for FY 2017-18. MSEDCL submitted samples of supplementary bills raised by Generator during the year. The Commission has verified the sample bills and found them to be in order.

5.4.12. Though FY 2017-18 is completed, the Audited Accounts for the FY 2017-18 is yet to be prepared. Hence, it is difficult to verify the actual power purchase cost incurred by MSEDCL in FY 2017-18. However, the commission has verified the actual power purchase rates from the MSEDCL's FAC submission for the latest month of the FY 2017-18, for which such submissions were available. It is observed that the power purchase expenses as given in the FAC report is almost similar to the MSEDCL's petitioned values. Hence, the Commission has approved the MSEDCL's submission on power purchase on provisional basis, which shall be subject to further prudence check at the time of truing up.

5.4.13. As per the RPO Regulations, 2016, each Distribution Licensee has to meet 12.5% of its requirement through RE sources in FY 2017-18, including 2% through solar sources and 10.5% through Non-solar (Other RE) sources. In addition, 0.2% of the Non-solar (Other RE) RPO obligation has to be met through Mini Hydro or Micro Hydro power projects. The Commission approves the MSEDCL's submitted values for RE generation and power purchase from RE sources. However, at the time of truing-up for FY 2017-18, the RPO obligation is to be adhered.

5.4.14. Regarding the power purchase in FY 2017-18, the Variable Charges considered for the IPPs are different from the rates in the PPA Schedule. MSEDCL was asked to submit the reconciliation of Total Charges considered for IPPs. MSEDCL submitted the required details, and stated that the PPA rates are linked to various factors such as variation in monthly exchange rate, CERC index for inland handling of imported fuel and CERC index for inland transportation of fuel. In addition, the submitted variable charge and fixed charge was cross-verified from the MSEDCL's FAC statement for the month of March 2018 and found them to be almost similar.

5.4.15. Accordingly, for provisional truing-up, the Commission approves the power purchase cost as submitted by MSEDCL, subject to further prudence check at the time of final truing-up of FY 2017-18.

**Table 5-11: Power Purchase Expenses for FY 2017-18 as approved by Commission (Rs. crore)**

| Stations | MSEDCL Petition | | | Approved in this Order | | |
|---|---|---|---|---|---|---|
| | Quantum | Cost | Per Unit Cost | Quantum | Cost | Per Unit Cost |
| | (MU) | (Rs. Crore) | (Rs./ kWh) | (MU) | (Rs. Crore) | (Rs./ kWh) |
| KAPP | -16 | - | - | -16 | - | - |
| TAPP 1&2 | 539 | 113 | 2.10 | 539 | 113 | 2.10 |
| TAPP 3&4 | 2,065 | 644 | 3.12 | 2,065 | 644 | 3.12 |
| SSP | 246 | 50 | 2.05 | 246 | 50 | 2.05 |
| PENCH | 51 | 10 | 2.05 | 51 | 10 | 2.05 |
| DODSON I | 53 | 9 | 1.65 | 53 | 9 | 1.65 |
| Dodson II | 29 | 13 | 4.46 | 29 | 13 | 4.46 |
| Renewable - Non- Solar | 10,239 | 5,607 | 5.48 | 10,239 | 5,607 | 5.48 |
| Renewable - Solar | 808 | 638 | 7.90 | 808 | 638 | 7.90 |
| Hydro (including ghatghar) | 3,415 | 693 | 2.03 | 3,415 | 693 | 2.03 |
| **Total Must Run** | **17,428** | **7,779** | **4.46** | **17,428** | **7,779** | **4.46** |
| BHUSAWAL - 3 | 533 | 244 | 4.57 | 533 | 244 | 4.57 |
| BHUSAWAL 4 & 5 | 5,624 | 2,562 | 4.56 | 5,624 | 2,562 | 4.56 |
| KHAPARKHEDA - 1to 4 | 2,815 | 1,018 | 3.62 | 2,815 | 1,018 | 3.62 |
| KHAPARKHEDA 5 | 2,815 | 1,117 | 3.97 | 2,815 | 1,117 | 3.97 |
| NASHIK- 3,4 & 5 | 2,580 | 1,225 | 4.75 | 2,580 | 1,225 | 4.75 |
| CHANDRAPUR - 1 to 7 | 8,069 | 2,311 | 2.86 | 8,069 | 2,311 | 2.86 |
| PARAS UNIT-3 & 4 | 2,809 | 1,135 | 4.04 | 2,809 | 1,135 | 4.04 |

| Stations | MSEDCL Petition | | | Approved in this Order | | |
|---|---|---|---|---|---|---|
| | Quantum | Cost | Per Unit Cost | Quantum | Cost | Per Unit Cost |
| | (MU) | (Rs. Crore) | (Rs./ kWh) | (MU) | (Rs. Crore) | (Rs./ kWh) |
| PARLI -3 to 5 | -13 | 27 | -19.92 | -13 | 27 | -19.92 |
| PARLI UNIT-6 & 7 | 1,985 | 1,005 | 5.06 | 1,985 | 1,005 | 5.06 |
| KORADI - 5 to 7 | 376 | 128 | 3.40 | 376 | 128 | 3.40 |
| GTPS URAN | 3,120 | 661 | 2.12 | 3,120 | 661 | 2.12 |
| Parli replacement U 8 | 752 | 446 | 5.93 | 752 | 446 | 5.93 |
| Chandrapur 8 | 2,621 | 1,069 | 4.08 | 2,621 | 1,069 | 4.08 |
| Chandrapur 9 | 3,088 | 1,127 | 3.65 | 3,088 | 1,127 | 3.65 |
| Koradi R U-8 | 2,877 | 1,170 | 4.07 | 2,877 | 1,170 | 4.07 |
| Koradi 9 | 2,446 | 1,034 | 4.23 | 2,446 | 1,034 | 4.23 |
| Koradi10 | 2,931 | 1,124 | 3.84 | 2,931 | 1,124 | 3.84 |
| Others | - | 530 | - | - | 530 | - |
| **MSPGCL Total** | **45,428** | **17,932** | **3.95** | **45,428** | **17,932** | **3.95** |
| KSTPS | 4,815 | 758 | 1.58 | 4,815 | 758 | 1.58 |
| KSTPS III | 976 | 275 | 2.81 | 976 | 275 | 2.81 |
| VSTP I | 3,171 | 577 | 1.82 | 3,171 | 577 | 1.82 |
| VSTP II | 2,610 | 583 | 2.23 | 2,610 | 583 | 2.23 |
| VSTP III | 2,237 | 572 | 2.56 | 2,237 | 572 | 2.56 |
| VSTP IV | 2,317 | 724 | 3.12 | 2,317 | 724 | 3.12 |
| VSTP V | 1,356 | 415 | 3.06 | 1,356 | 415 | 3.06 |
| KAWAS | 650 | 120 | 1.84 | 650 | 120 | 1.84 |
| GANDHAR | 852 | 320 | 3.76 | 852 | 320 | 3.76 |
| KhSTPS-II | 855 | 312 | 3.65 | 855 | 312 | 3.65 |
| SIPAT TPS 2 | 2,127 | 553 | 2.60 | 2,127 | 553 | 2.60 |
| SIPAT TPS 1 | 4,363 | 1,149 | 2.63 | 4,363 | 1,149 | 2.63 |
| Mauda I | 1,950 | 1,068 | 5.48 | 1,950 | 1,068 | 5.48 |
| Mauda II | 1,094 | 497 | 4.54 | 1,094 | 497 | 4.54 |
| KhSTPS-I/FSTPS-I | - | -10 | - | - | -10 | - |
| NTPC solapur | 598 | 348 | 5.83 | 598 | 348 | 5.83 |
| Lara | - | - | - | - | - | - |
| Gadarwara | - | - | - | - | - | - |
| RRAS | - | -11 | - | - | -11 | - |
| RRAS | - | -7 | - | - | -7 | - |
| Others NTPC | - | -42 | - | - | -42 | - |
| NTPC NVVN Coal | 145 | 41 | 2.84 | 145 | 41 | 2.84 |
| **NTPC Total** | **30,116** | **8,243** | **2.74** | **30,116** | **8,243** | **2.74** |
| IPP - JSW | 1,899 | 548 | 2.89 | 1,899 | 548 | 2.89 |
| Adani power 125 MW | 830 | 319 | 3.84 | 830 | 319 | 3.84 |
| Adani power 1320 MW | 6,294 | 1,826 | 2.90 | 6,294 | 1,826 | 2.90 |

| Stations | MSEDCL Petition | | | Approved in this Order | | |
|---|---|---|---|---|---|---|
| | Quantum | Cost | Per Unit Cost | Quantum | Cost | Per Unit Cost |
| | (MU) | (Rs. Crore) | (Rs./ kWh) | (MU) | (Rs. Crore) | (Rs./ kWh) |
| Adani power 1200 MW | 7,972 | 3,060 | 3.84 | 7,972 | 3,060 | 3.84 |
| Adani power 440mw | 2,160 | 955 | 4.42 | 2,160 | 955 | 4.42 |
| EMCO Power | 1,261 | 532 | 4.22 | 1,261 | 532 | 4.22 |
| Rattanindia Amravati | 4,347 | 2,150 | 4.95 | 4,347 | 2,150 | 4.95 |
| Mundra UMPP | 4,990 | 1,275 | 2.56 | 4,990 | 1,275 | 2.56 |
| Short term | 4,056 | 1,495 | 3.69 | 4,056 | 1,495 | 3.69 |
| Others | - | 36 | - | - | 36 | - |
| Renewable Energy Cerificate (4101.944 MUS) | - | 689 | - | - | 689 | - |
| FBSM | -1,359 | -267 | 1.97 | -1,359 | -267 | 1.97 |
| PGCIL Charges incl Reactive energy charges | - | 2,559 | - | - | 2,559 | - |
| **Total Power purchase** | **1,25,422** | **49,130** | **3.92** | **1,25,422** | **49,130** | **3.92** |

## 5.5. Transmission Charges and MSLDC Charges for FY 2017-18

***MSEDCL's Submission***

5.5.1. The Commission has approved Transmission Charges for FY 2017-18 in its InSTS Tariff Order in Case No. 91 of 2016, and the MSLDC Charges in its Order in Case No. 20 of 2016. The same have been applied for FY 2017-18. The Transmission Charges claimed by MSEDCL are as shown in the following Table:

**Table 5-12: Transmission Charges for FY 2017-18 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Transmission Charges paid to Transmission Licensee | 5,824 | 4,812 |

***Commission's Analysis and Ruling***

5.5.2. While MSEDCL has shown the entire amount of Rs.4,812 crore as Transmission Charges paid to MSETCL, it also includes a component of MSLDC Charges paid by MSEDCL. The Commission has verified the charges paid by MSEDCL based on the share of such charges allocated to it in the respective InSTS Tariff Orders and MYT Order for MSLDC applicable for FY 2017-18. The Table below summarises the various Orders and applicable Transmission and MSLDC Charges payable by MSEDCL during FY 2017-18.

**Table 5-13: Transmission and MSLDC Charge details and applicability for FY 2017-18, as per Commission (Rs. crore)**

| Particulars | Amount | Case Reference |
|---|---|---|
| Share of Transmission Charges for MSEDCL from April 2017 to March 2018 | 399.72 x 12 | Case 91 of 2016 |
| **Total Share of Transmission Charges** | **4,796.64** | |
| Share of MSLDC Charges for MSEDCL from April 2017 to March 2018 | | |
| **Total Share of MSLDC Charges** | **15.53** | Case 20 of 2016 |
| Total Transmission and MSLDC Charges during FY 2017-18 | **4,812.17** | |

5.5.3. Accordingly, the Commission has allowed Transmission Charges and MSLDC Charges of Rs.4,812 crore for FY 2017-18.

**Table 5-14: Transmission Charges for FY 2017-18 as per Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Transmission Charges paid to Transmission Licensee | 5,824 | 4,812 | 4,812 |

## 5.6. O&M Expenses for FY 2017-18

***MSEDCL's Submission***

5.6.1. MSEDCL submitted that Regulation 72 and 81 of the MERC MYT Regulations 2015 (First Amendment) provides for the O&M Expenses Norm for Distribution Wires Business and Retail Supply of electricity respectively.

5.6.2. Considering the escalation factor as considered in the truing up chapter for FY 2016-17, MSEDCL has calculated the O&M Expenses for Wires Business and Retail Supply of electricity for FY 2017-18.

5.6.3. The normative O&M expenses for FY 2017-18 are estimated at Rs. 7,162 crore as against the O&M Expenses of Rs.6,088 crore approved in the MYT Order. Comparison of the normative O&M expenses for Wires and Supply Business as against those earlier approved are given in the Table below.

**Table 5-15: Operation & Maintenance Expenses for FY 2017-18, as submitted by MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition (Normative) |
|---|---|---|
| O&M Expenditure for Wires Business | 3,957 | 4,655 |
| O&M Expenditure for Supply Business | 2,131 | 2,507 |
| **Operation & Maintenance Expenses** | **6,088** | **7,162** |

***Commission's Analysis and Ruling***

5.6.4. The Commission has applied the amended norms specified in Regulations 72 and 81 of the MYT Regulations, 2015 for approval of O&M Expenses for the Wires Business and Supply Business for FY 2017-18.

5.6.5. As elaborated in the above chapter for FY 2016-17, the Commission has considered an escalation factor of 5.06% (reducing 1% efficiency factor) over normative O&M expenses for FY 2016-17 after considering the impact of sharing of gains, for calculating the O&M Expenses for Wires Business and Retail Supply of electricity for FY 2017-18. The same is as shown in following table.

**Table 5-16: O&M Expenses for FY 2017-18 (Wires+Supply) approved by the Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Normative) | Approved in this Order |
|---|---|---|---|
| O&M Expenditure for Wires Business | 3,957 | 4,655 | 4,544 |
| O&M Expenditure for Supply Business | 2,131 | 2,507 | 2,447 |
| **Operation & Maintenance Expenses** | **6,088** | **7,162** | **6,991** |

## 5.7. Capital Expenditure and Capitalisation for FY 2017-18

***MSEDCL's Submission***

5.7.1. MSEDCL has submitted that the provisional capitalisation for FY 2017-18 and the scheme wise details of capital expenditure and capitalisation in the Regulatory formats Form 4.2 and Form 4.3.

**Table 5-17: Capex and Capitalisation as submitted by MSEDCL for FY 2017-18 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Capex | 8,917 | 4,568 |
| Capitalisation | 5,778 | 5,864 |

5.7.2. The following tables summarises the capital expenditure and capitalisation for DPR and non-DPR schemes claimed by MSEDCL during FY 2017-18.

**Table 5-18: Summary of Capex and Capitalisation as submitted by MSEDCL for FY 2017-18 (Rs. crore)**

| Particulars | FY 2017-18 (Provisional) |
|---|---|
| **Capital Expenditure** | |
| DPR Schemes | 3,236 |
| Non DPR Schemes | 1,332 |
| **Total** | **4,568** |
| **Capitalisation** | |
| DPR Schemes | 4,601 |
| Non DPR Schemes | 1,263 |
| **Total** | **5,864** |

5.7.3. MSEDCL further submitted the detailed break up of the above DPR and Non-DPR schemes which is provided below:

**Table 5-19: DPR Scheme Capex and Capitalisation as submitted by MSEDCL for FY 2017-18 (Rs. crore)**

| DPR Scheme | Capital Expenditure | Capitalisation |
|---|---|---|
| Infra Plan Works | 117 | 122 |
| Infra Plan Works - II | 1,318 | 2,542 |
| Additional Infra _II | - | - |
| GFSS - I | - | (0.00) |
| GFSS - II | 1 | 5 |
| GFSS - III | 0.04 | 9 |
| GFSS IV | 19 | 44 |
| Fixed Capacitor Scheme | - | 23 |
| **LT Capacitor Phase I & II** | | |
| Single Phasing - Left out villages | 1 | 10 |
| Elimination of 66 KV Line | 15 | 11 |
| AMR | - | 4 |
| APDRP | - | - |
| Phase-I | - | 220 |
| Phase-II | - | 10 |
| RAPDRP A | 1 | 200 |
| RAPDRP B | 750 | 646 |
| SCADA Part A | 50 | 37 |
| **DTC Metering** | | |

| DPR Scheme | Capital Expenditure | Capitalisation |
|---|---|---|
| Phase-III | - | 34 |
| SPA:PE | 25 | 53 |
| P:SI | 20 | 26 |
| P:IE | 1 | 6 |
| RGGVY | - | 20 |
| ERP | 7 | 5 |
| Agriculture Metering | 42 | 31 |
| MIDC Interest free Loan Scheme | - | 9 |
| Ag DSM-Pilot project in Mangalwedha, solapur | 1 | 2 |
| Star rated ceiling fan Phase-II (HVAC) | - | 10 |
| DDUGJY | 452 | 272 |
| IPDS | 416 | 250 |
| Sinhansth Kumbmela Nashik | - | - |
| **Total DPR Schemes** | **3,236** | **4,601** |

**Table 5-20: Non-DPR Scheme Capex and Capitalisation as submitted by MSEDCL for FY 2017-18 (Rs. crore)**

| Non-DPR Schemes | Capital Expenditure | Capitalisation |
|---|---|---|
| FMS | - | 2 |
| MIS / IT Backbone ( Integrated system +Big Data + Communication Backbone) | 19 | 16 |
| Load Management | - | 8 |
| P.F.C.Urban Distribution Scheme | - | - |
| MIDC Interest free Loan Scheme | - | - |
| Evacuation | 2 | 1 |
| Evacuation Wind Generation ** | 10 | 8 |
| DPDC / Non-Tribal | 163 | 127 |
| DPDC / SCP (Loan up to 2012-13) | 122 | 89 |
| DPDC / TSP + OTSP | 104 | 156 |
| Rural Electrification | - | 6 |
| JBIC | - | 23 |
| New consumers | 300 | 215 |
| Back log | 87 | 161 |
| Ag Special Package for Vidabhrba /maratwada & maha | - | - |
| Single Phasing | - | - |

| Non-DPR Schemes | Capital Expenditure | Capitalisation |
|---|---|---|
| Ag Special Package for Vidabhrba /maratwada | 421 | 329 |
| Single Phasing - I, II, III | 4 | 7 |
| Draught Fund from Govt. | 100 | 114 |
| **Total Non-DPR Schemes** | **1,332** | **1,263** |

5.7.4. MSEDCL has further submitted that considering the present status of various schemes and progress of award of contracts, the capitalisation has been revisited. MSEDCL has requested the Commission to allow capitalisation as submitted in the above table.

***Commission's Analysis and Rulings***

5.7.5. The Commission has perused the capitalisation details of the schemes as claimed by MSEDCL for FY 2017-18. It is observed that, for the following DPR schemes, MSEDCL has claimed excess capitalisation over and above their approved cost.

**Table 5-21: Excess Capitalisation during FY 2017-18 (Rs. Crore)**

| Major Schemes | Excess Capitalisation in FY 2017-18 |
|---|---|
| Infra Plan Works | 122 |
| GFSS - II | 5 |
| GFSS - III | 9 |
| RAPDRP A | 200 |
| Phase-III | 34 |
| SPA:PE | 53 |
| P:SI | 26 |
| P:IE | 6 |
| RGGVY | 20 |
| **Total** | **474** |

5.7.6. As emphasised in the MYT Order also, significant excess capitalisation is due to time over-run of the schemes, and excess interest was incurred which would have been capitalised as IDC. In case of schemes with excess capitalisation over and above the in-principle approved capital cost, the Commission has continued to disallow 50% of the IDC claimed by MSEDCL.

5.7.7. Further, in line with the regulatory provisions under Regulation 23.6 of MYT Regulation 2015 which specifies to limit the capitalisation of non-DPR schemes within

20% of capitalisation allowed for DPR schemes, the Commission has accordingly limited the capitalisation claimed towards non-DPR schemes in FY 2017-18.

5.7.8. Based on the above, the capitalisation provisionally allowed for FY 2017-18 is as follows:

**Table 5-22: Capitalisation approved by Commission for FY 2017-18 (Rs crore)**

| Particulars | Reference | FY 2017-18 |
|---|---|---|
| Total DPR scheme capitalization allowed | a | 4,601 |
| Total Excess Capitalisation in the year | b | 474 |
| 50% of IDC of excess capitalisation | c | 2 |
| **Net DPR Allowed after adjusting IDC of excess capitalisation** | **d=a-c** | 4,599 |
| Allowable non-DPR scheme capitalisation(considering 20% cap) | e =20% of d | 920 |
| Non-DPR scheme capitalisation claimed | f | 1,263 |
| Excess claimed for non-DPR schemes | g | 343 |
| **Net Non-DPR capitalisation approved** | **h=min(e,f)** | 920 |
| **Total (DPR+ non-DPR Capitalisation+ other schemes)** | **i=d+h** | 5,519 |

## 5.8. Depreciation for FY 2017-18

***MSEDCL's Submission***

5.8.1. MSEDCL has submitted that MERC MYT Regulations, 2015 provides for recovery of depreciation. As per Regulation 27.1 (b) of MYT Regulation, the individual asset is to be depreciated to the extent of 70% on the straight line basis as per the rates specified in the Regulations.

5.8.2. MSEDCL has further submitted that depreciation has been calculated taking in to consideration the opening balance of assets in the beginning of the year and the projected capitalisation. The depreciation rates used as per the MERC MYT Regulations, 2015. MSEDCL has submitted the comparison of approved and provisional depreciation for FY 2017-18 as shown below:

**Table 5-23: Depreciation as submitted by MSEDCL for FY 2017-18 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Opening GFA | 49,711 | 49,221 |

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| Depreciation | 2,308 | 2,724 |
| % Depreciation | 4.64% | 5.54% |

5.8.3. MSEDCL has requested the Commission to allow the depreciation as submitted in the above table.

***Commission's Analysis and Rulings***

5.8.4. The Commission has taken the Opening GFA as the closing GFA approved for FY 2016-17 in Truing Up for computing the depreciation, and on the revised capitalisation approved during FY 2017-18. Further, as per Regulation 25.2 (c), the Commission has excluded contribution from grants and consumer contribution for the purpose of computation of depreciation for FY2017-18.

**Table 5-24: Depreciation approved for FY 2017-18 (Rs. crore)**

| Particulars | Approved in this Order |
|---|---|
| Opening GFA | 47,173 |
| Depreciation | 2,183 |
| % Depreciation | 4.63% |

5.8.5. Summary of depreciation approved by the Commission is as follows:

**Table 5-25: Summary of Depreciation for FY 2017-18 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Depreciation | 2,308 | 2,724 | 2,183 |

## 5.9. Interest Expenses for FY 2017-18

***MSEDCL's Submission***

5.9.1. MSEDCL has submitted that the interest expenditure on account of long-term loans depends on the outstanding loan, repayments, and prevailing interest rates on the outstanding loans. MSEDCL has further submitted that the projected capital expenditure and the funding of the same also have a major bearing on the long-term interest expenditure.

5.9.2. MSEDCL has referred to Regulation 29.3 of MERC MYT Regulations, 2015, stating that the loan repayment is considered equal to depreciation for calculation of interest.

5.9.3. MSEDCL has also referred to Regulation 29 of MERC MYT Regulations, 2015 specifying that the rate of interest used for calculation of interest on long-term loans should be the weighted average rate of interest on the basis of actual loan portfolio at the beginning of each year. Accordingly, MSEDCL has calculated the interest on long-term loans considering the weighted average rate of interest for FY 2016-17 i.e. 11.37%.

**Table 5-26: Interest Expenses for FY 2017-18, as submitted by MSEDCL (Rs. Crore)**

| Particulars | FY 2017-18 (Approved) | FY 2017-18 (Normative) | Deviation |
|---|---|---|---|
| Normative Outstanding Loan at beginning of the year | 18,210 | 13,835 | (4,375) |
| Loan Drawal | 4,248 | 2,967 | (1,281) |
| Loan Repayment | 2,308 | 2,724 | 416 |
| Normative Balance outstanding at the end of the year | 20,150 | 14,077 | (6,073) |
| Interest Rate | 11.83% | 11.37% | |
| Gross Interest Expenses | 2,269 | 1,586 | (683) |
| Less: Expense Capitalised | | | |
| Net Interest Expenses | 2,269 | 1,586 | (683) |

***Commission's Analysis and Rulings***

5.9.4. The Commission asked MSEDCL to confirm if any retirement of assets was envisaged in FY 2017-18 and, if so, to submit the details and resubmit the computation on long-term loan. MSEDCL stated that it is difficult to predict the retirement of assets during the year. However, after availability of Audited Accounts for FY 2017-18, the details of retirement of assets will be reported and the revised computation of interest on long-term loan (if required) will be submitted during the true-up of FY 2017-18 and the same will be analysed then.

5.9.5. The Commission has considered the funding pattern for capitalisation for FY 2017-18 in the same ratio as for the funding of proposed capital expenditure, in line with the methodology adopted by MSEDCL and after considering the approved quantum of capitalisation as presented in the following table, subject to prudence check and review during the truing-up exercise.

**Table 5-27: Funding Pattern approved by Commission (Rs. Crore)**

| Particular | Amount (Rs. crore) | Funding Mix (%) |
|---|---|---|
| Total Capitalisation | 5,519 | |
| Less: Consumer Contribution | 121 | |
| Less: Grants | 1,195 | |
| **Balance to be funded** | **4,204** | |
| Equity | 1,261 | 30% |
| Debt | 2,943 | 70% |

5.9.6. Regulation 29.5 of MYT Regulations, 2015 is as below:

> *"29.5 The rate of interest shall be the weighted average rate of interest computed on the basis of the actual loan portfolio at the beginning of each year :*
> *Provided that at the time of Truing-up, the weighted average rate of interest computed on the basis of the actual loan portfolio during the concerned year shall be considered as the rate of interest:*
> *Provided further that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest for actual loan shall be considered :"*

5.9.7. Accordingly, as per provisions under the Regulations, the Commission has considered last available rate i.e. the weighted average Rate of interest as approved for FY 2016-17 which is 11.37%. The same has been allowed accordingly. The Opening loan for FY 2017-18 is considered same as closing balance of FY 2016-17 approved by the Commission.

**Table 5-28: Interest Expenses approved by the Commission for FY 2017-18 (Rs. Crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Opening Balance of Gross Normative Loan | | | |
| Cumulative Repayment till the year | | | |
| Opening Balance of Net Normative Loan | 18,210 | 13,835 | 13,575 |
| Less: Reduction of Normative Loan due to retirement or replacement of assets | | | |
| Addition of Normative Loan due to capitalisation during the year | 4,248 | 2,967 | 2,943 |

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Repayment of Normative Loan during the year | 2,308 | 2,724 | 2,183 |
| Closing Balance of Net Normative Loan | 20,149 | 14,077 | 14,334 |
| Closing Balance of Gross Normative Loan | | | |
| Average Balance of Net Normative Loan | 19,180 | 13,956 | 13,955 |
| Weighted average Rate of Interest on actual Loans (%) | 11.83% | 11.37% | 11.37% |
| Interest Expenses | 2,269 | 1,586 | 1,586 |
| Expenses Capitalised | - | - | - |
| **Total Interest Expenses** | **2,269** | **1,586** | **1,586** |

### 5.10. Return on Equity for FY 2017-18

***MSEDCL's Submission***

5.10.1. MSEDCL has submitted that Regulation 28.2 of MYT Regulations, 2015 provides for Return on Equity (RoE) for Distribution Licensee for both Wires and Supply Business.

5.10.2. MSEDCL has submitted in the following table, calculation of capital expenditure, equity and asset capitalisation of MSEDCL for computing the Return on Equity:

**Table 5-29: Calculation of equity portion of the Capitalization for FY 2017-18 (Rs. Crores)**

| S.No. | Particulars | MYT Order | MSEDCL Petition |
|---|---|---|---|
| 1 | Capital Expenditure | - | 4,568 |
| A | Less Grant | - | 989 |
| B | Capital Expenditure (excl Grants) | - | 3,579 |
| 2 | Equity | - | |
| A | Internal Accrual | - | 1,005 |
| B | GoM Equity | - | 264 |
| C | Consumer Contribution | - | 100 |
| 3 | Total Equity excl Consumer Contribution | - | 1,168 |
| 4 | **Equity portion of capital expenditure 4= (3/1b)** | - | 32.64% |
| 5 | Assets Capitalisation | - | |
| A | Capitalisation | - | 5,864 |
| B | Assets Capitalisation (to be considered in proportion to 1b) | - | 4,595 |

| S.No. | Particulars | MYT Order | MSEDCL Petition |
|---|---|---|---|
| 6 | **Equity portion of Assets Capitalisation (upto 30%) with impact of Equity portion of assets retired during the year** | **796** | **1,378** |
| 7 | **Balance Equity Portion to be treated as Loan** | **-** | **121** |

5.10.3. MSEDCL has submitted that the capital expenditure, grants, equity and capitalisation has been divided into Wires and Supply Business in the ratio of 90:10. In form 4.4, MSEDCL has submitted the details of year wise funding for various schemes wherein the debt: equity portion is arranged. MSEDCL has further submitted that the few capital works which could be funded by consumers through consumer contribution can only be reconciled at the time of finalisation of accounts. MSEDCL has justified that since projection and allocation of consumer contribution to any particular scheme is difficult, MSEDCL has not shown the consumer contribution in Form 4.4. However, for the purpose of computation of RoE, MSEDCL has projected the consumer contribution based on historical experience and capital expenditure in the above table.

5.10.4. MSEDCL has submitted that the capitalisation of expenditure has been worked out in proportion to the capital expenditure calculated after deducting the grant.

5.10.5. For wires business, MSEDCL submitted it has computed the return on equity at 15.5% on average equity based upon the opening balance of equity and normative additions during the year in the table below:

**Table 5-30: RoE for Wires Business for FY 2017-18 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | FY 2017-18 (Provisional) | Deviation |
|---|---|---|---|
| Equity at the beginning of the year (Wires) | 9,519 | 10,452 | 933 |
| Capital Expenditure incurred (excl. Grants) | | 3,221 | |
| Equity portion of capital expenditure | | 1051 | |
| % of Equity portion of capital expenditure | | 32.64% | |
| Assets Capitalisation | | 4,135 | |
| Equity portion of Assets Capitalisation | 302 | 1241 | 939 |
| **Equity at the end of the year** | **9,821** | **11,693** | **1872** |
| **Return on Computation** | | | |
| Return on Equity at the beginning of the year-15.5% | 1,475 | 1,620 | 145 |

| Particulars | MYT Order | FY 2017-18 (Provisional) | Deviation |
|---|---|---|---|
| Return on Normative Equity portion of Asset Capitalisation | 23 | 96 | 73 |
| Interest on Equity portion above 30% @11.83%p.a | | 6 | 6 |
| **Total Return on Equity for wires** | **1,499** | **1,722** | **224** |

5.10.6. For supply business, MSEDCL has computed the return on equity at 17.5% on average equity based upon the opening balance of equity and normative additions during the year in the table below:

**Table 5-31: RoE for Supply Business for FY 2017-18 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | FY 2017-18 (Provisional) | Deviation |
|---|---|---|---|
| Equity at the beginning of the year (Supply) | 1058 | 1,161 | 103 |
| Capital Expenditure incurred (excl. Grants) | | 358 | |
| Equity portion of capital expenditure | | 117 | |
| % of Equity portion of capital expenditure | | 32.64% | |
| Assets Capitalisation | | 459 | |
| Equity portion of Assets Capitalisation | 34 | 138 | |
| **Equity at the end of the year** | **1,092** | **1,299** | **207** |
| **Return on Computation** | | | |
| Return on Equity at the beginning of the year-17.5% | 185 | 203 | 18 |
| Return on Normative Equity portion of Asset Capitalisation | 3 | 12 | 9 |
| Interest on Equity portion above 30% @11.83%p.a | | 1 | |
| **Total Return on Equity** | **188** | **216** | **28** |

***Commission's Analysis and Rulings***

5.10.7. The Commission asked MSEDCL to confirm whether any asset was retired in FY 2017-18, and if so to submit the details and revise the computation of RoE considering reduction in the equity due to such retirement. In reply, MSEDCL stated that it is difficult to predict the retirement of assets during the year. However, after availability of Audited Accounts for FY 2017-18, the details of retirement of assets will be reported and the revised computation of RoE (if required) will be submitted during the true-up of FY 2017-18.

5.10.8. The equity approved by the Commission at the end of FY 2016-17 has been taken by the Commission as the opening equity for FY 2017-18, and the RoE approved as follows:

**Table 5-32: Return on Equity (Wires) for FY 2017-18 approved by Commission (Rs. crore)**

| Particulars | % | FY 2017-18 |
|---|---|---|
| Equity at the beginning of the year | | 9,796 |
| Equity portion of Assets Capitalisation | | 1,270 |
| **Equity at the end of the year** | | 11,066 |
| **Return on Equity Computation** | | |
| Return on Equity at the beginning of the year - @15.5% | 15.50% | 1,518 |
| Return on Normative Equity portion of Asset Capitalisation - @15.5%/2 | 15.50% | 98 |
| Interest on Equity portion above 30% @11.37%p.a. | | **6** |
| **Total Return on Equity** | | **1,623** |

**Table 5-33: Return on Equity (Supply) for FY 2017-18 approved by Commission (Rs. crore)**

| Particulars | % | FY 2017-18 |
|---|---|---|
| Equity at the beginning of the year | | 1,088 |
| Equity portion of Assets Capitalisation | | 141 |
| **Equity at the end of the year** | | 1,229 |
| **Return on Equity Computation** | | |
| Return on Equity at the beginning of the year - @17.5% | 17.50% | 190 |
| Return on Normative Equity portion of Asset Capitalisation - @17.5%/2 | 17.50% | 12 |
| Interest on Equity portion above 30% @11.37%p.a. | | 1 |
| **Total Return on Equity** | | **203** |

**Table 5-34: Summary of RoE approved by Commission (Wires+Supply) (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| RoE for Wires Business | 1,499 | 1,722 | 1,623 |
| RoE for Retail Supply Business | 188 | 216 | 203 |
| **Return on Equity** | **1,687** | **1,938** | **1,826** |

## 5.11. Interest on Working Capital for FY 2017-18

***MSEDCL's Submission***

5.11.1. Regulations 31.3 and 31.4 of the MYT Regulations, 2015 specify the norms for IoWC for Wires and Supply Business. Accordingly, MSEDCL has worked out the IoWC and interest on Security Deposit for the Wires Business as shown in the following Table:

**Table 5-35: Interest on Working Capital and Security Deposit for Wires Business for FY 2017-18 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| **Computation of Working Capital** | | |
| O&M expenses for a month | 330 | 388 |
| Maintenance Spares at 1% of Opening GFA | 447 | 443 |
| One and half months equivalent of the expected revenue from charges for use of Distribution Wires | 1,162 | 1,246 |
| Less: | | |
| Amount of Security Deposit from Distribution System users | (668) | (698) |
| **Total Working Capital Requirement** | 1,271 | 1,378 |
| | | |
| **Computation of Working Capital Interest** | | |
| Rate of Interest (% p.a) | 10.80% | 9.50% |
| **Interest on Working Capital** | **137** | **131** |
| | | |
| **Interest on Security Deposit** | | |
| Rate of Interest (% p.a) | 10.80% | 9.50% |
| **Interest on Security Deposit** | **72** | **66** |

5.11.2. MSEDCL has calculated the interest on working capital and Interest on Security Deposit at 9.50% i.e. MCLR plus 150 basis points as provided in the MYT Regulations 2015.

5.11.3. MSEDCL further submitted that Regulation 31.4 of the MERC MYT Regulations 2015 provides for Interest on Working Capital for Retail Supply business of electricity as shown below:

**Table 5-36: Interest on Working Capital and Consumers' Security Deposit for Supply Business for FY 2017-18 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition |
|---|---|---|
| **Computation of Working Capital** | | |
| O&M expenses for a month | 178 | 209 |
| Maintenance Spares at 1% of Opening GFA | 50 | 49 |
| One and half months equivalent of the expected revenue from sale of electricity at the prevailing Tariff, and including revenue from cross-subsidy surcharge and Additional Surcharge | 7,233 | 7,582 |
| Less: | | |
| Amount of Security Deposit from retail supply consumers | (6,015) | (6,286) |
| One month equivalent of cost of power purchase, Transmission Charges and MSLDC Charges | (4,482) | (4,495) |
| Total Working Capital Requirement | (3,036) | (2,941) |
| | | |
| **Computation of W orking Capital Interest** | | |
| Rate of Interest (% p.a) | 10.80% | 9.50% |
| **Interest on Working Capital (Normative Basis)** | **-** | **-** |
| | | |
| **Interest on Security Deposit** | | |
| Rate of Interest (% p.a) | 10.80% | 9.50% |
| **Interest on Security Deposit** | **650** | **597** |

***Commission's Analysis and Ruling***

5.11.4. The Commission has worked out the working capital requirement on a normative basis, which is based on the approved parameters as per this Order. Considering the negative impact of security deposit, the normative working capital requirement works out to be negative and considered as nil for both wires and supply business.

5.11.5. As regards CSD, the Commission has considered the same amount as submitted by MSEDCL. Further, as regards rate of interest on CSD, the same has been considered in accordance with Regulation 29.11 which specifies that interest rate should be base rate plus 150 basis point as on 1st April 2017 of the respective year. Accordingly, the interest rate is considered as 10.20%.

5.11.6. The Commission has reworked the IoWC in accordance with the MYT Regulations, 2015 norms and based on parameters such as the O&M Expenses, Wires ARR and Supply ARR approved in this Order.

**Table 5-37: Interest on Working Capital and Security Deposit for Wires Business as approved by Commission for FY 2017-18 (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| **Computation of Working Capital** | | | |
| O&M expenses for a month | 330 | 388 | 379 |
| Maintenance Spares at 1% of Opening GFA | 447 | 443 | 431 |
| One and half months equivalent of the expected revenue from charges for use of Distribution Wires | 1,162 | 1,246 | 1,162 |
| Less: | | | |
| Amount of Security Deposit from Distribution System users | (668) | (698) | (698) |
| **Total Working Capital Requirement** | 1,271 | 1,378 | **1,274** |
| | | | |
| **Computation of Working Capital Interest** | | | |
| Rate of Interest (% p.a) | 10.80% | 9.50% | 10.20% |
| **Interest on Working Capital** | **137** | **131** | **130** |
| | | | |
| **Interest on Security Deposit** | | | |
| Rate of Interest (% p.a) | 10.80% | 9.50% | 10.60% |
| **Interest on Security Deposit** | **72** | **66** | **74** |

**Table 5-38: Interest on Working Capital and Consumers' Security Deposit for Supply Business as approved by Commission for FY 2017-18 (Rs crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| **Computation of Working Capital** | | | |
| O&M expenses for a month | 178 | 209 | 204 |
| Maintenance Spares at 1% of Opening GFA | 50 | 49 | 48 |
| One and half months equivalent of the expected revenue from sale of electricity at the prevailing Tariff, | 7,233 | 7,582 | 7,582 |

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| and including revenue from cross-subsidy surcharge and Additional Surcharge | | | |
| Less: | | | |
| Amount of Security Deposit from retail supply consumers | (6,015) | (6,286) | (6,286) |
| One month equivalent of cost of power purchase, Transmission Charges and MSLDC Charges | (4,482) | (4,495) | (4,495) |
| Total Working Capital Requirement | (3,036) | (2,941) | (2,947) |
| | | | |
| **Computation of Working Capital Interest** | | | |
| Rate of Interest (% p.a) | 10.80% | 9.50% | 10.20% |
| **Interest on Working Capital (Normative Basis)** | **-** | **-** | **-** |
| | | | |
| **Interest on Security Deposit** | | | |
| Rate of Interest (% p.a) | 10.80% | 9.50% | 10.60% |
| **Interest on Security Deposit** | **650** | **597** | **666** |

5.11.7. Accordingly, the IoWC and the Interest on Security Deposits from Consumers and Distribution System Users approved for FY 2017-18 is as follows:

**Table 5-39: IoWC and Interest on Security Deposit as approved by Commission FY 2017-18 (Wires+Supply) (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| IoWC & Interest on CSD (Wires) | 209 | 197 | 204 |
| IoWC & Interest on CSD (Supply) | 650 | 597 | 666 |
| **IoWC & Interest on CSD** | **859** | **794** | **870** |

## 5.12. Provision for Bad Debts for FY 2017-18

***MSEDCL's Submission***

5.12.1. MSEDCL has claimed provisioning towards Bad Debts for FY 2017-18 in line with Regulations 73 and 82 of the MYT Regulations 2015. MSEDCL has already provided the reasons for deviations in increase in receivables as part of its submission in FY 2016-17.

5.12.2. The provision for bad and doubtful debts of Rs.491 Crore at the rate of 1.5% of the receivable for FY 2016-17 has been made for FY 2017-18 as shown in following tables:

**Table 5-40: Provision for Bad Debts for Wires Business for FY 2017-18 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) |
|---|---|---|
| Receivables for the year | 1,722 | 3,277 |
| % of Receivables | 1.50% | 1.50% |
| Provision for Bad & Doubtful Debts for Wires Business | 26 | 49 |

**Table 5-41: Provision for Bad Debts for Supply Business for FY 2017-18 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) |
|---|---|---|
| Receivables for the year | 15,494 | 29,492 |
| % of Receivables | 1.50% | 1.50% |
| Provision for Bad & Doubtful Debts for Supply Business | 232 | 442 |

***Commission's Analysis and Ruling***

5.12.3. For the provisional truing-up of FY 2017-18, the Commission has approved the provision for Bad Debts as projected by MSEDCL, at Rs. 492 crore, subject to subsequent truing-up after prudence check.

**Table 5-42: Provision for Bad Debts for FY 2017-18 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Approved in this Order |
|---|---|---|---|
| Provision for Bad & Doubtful Debts | 258 | 492 | 492 |

## 5.13. Other Expenses for FY 2017-18

***MSEDCL's Submission***

5.13.1. MSEDCL has claimed 'Other Expenses' comprising expenditure on account of Non-Moving items written off, interest to suppliers/contractors, Incentive to distribution franchisee and other expenses viz. compensation for injuries to staff and outsiders.

MSEDCL has estimated the Other Expenses considering a nominal 5% increase over previous year.

5.13.2. MSEDCL added that due to consideration of Expected Credit Loss on other receivables and other expenses of previous years as provided in Audited Accounts for FY 2016-17, there is a deviation compared to other expenses approved in MYT Order.

**Table 5-43: Other Expenses for FY 2017-18 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) |
|---|---|---|
| Other Expenses | 16 | 65 |

***Commission's Analysis and Ruling***

5.13.3. For provisional truing-up of FY 2017-18, the Commission has disallowed the heads Loss on obsolescence of Fixed Assets in line with principle outlined in the MYT Order. Besides, the Commission has provisionally disallowed the heads of - expense of Refund of Additional Supply Charge, expenditure of Refund of RLC in FY 2017-18 as MSEDCL has neither proposed to refund any such amount during the year nor it has claimed any amount on account of such refund under the respective ARR heads of RLC refund and ASC refund.

5.13.4. Accordingly, the Commission has approved the following towards Other Expenses, subject to prudence check at the time of true-up.

**Table 5-44: Other Expenses for FY 2017-18 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Compensation for injuries, death to staff | 3 | 1 | 1 |
| Compensation for injuries, death to others | 7 | 15 | 15 |
| Loss on obsolescence of Fixed Assets | - | - | - |
| Loss on sale of scrap | - | - | - |
| Intangible assets written-off | - | - | - |
| Interest on Staff Welfare Fund | - | - | - |
| Non Moving Items | 2 | 3 | 3 |
| Expense of Refund of Additional Supply Charge | - | 0.5 | - |
| Expenditure of Refund of RLC as per MERC Order | - | 0.7 | - |
| Interest to Suppliers/Contractors | 3 | - | - |
| Small and low value write-offs | 0 | - | - |

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Others | 1 | 2 | 2 |
| Sundry debit balances written off | - | 0.0 | - |
| Expected Credit loss on other receivables | - | 41 | 41 |
| **TOTAL** | **16** | **65** | **63** |

### 5.14. Contribution to Contingency Reserves for FY 2017-18

***MSEDCL's Submission***

5.14.1. MSEDCL submitted that considering the precarious financial condition and unavailability of sufficient funds to discharge its various liabilities, it was not feasible for MSEDCL to invest in contingency reserves. Considering the critical financial situation in FY 2017-18, MSEDCL has not invested any amount in contribution to contingency reserves. Accordingly, the same not been claimed in ARR of the FY 2017-18.

***Commission's Analysis and Ruling***

5.14.2. Regulation 34 of the MYT Regulations, 2015 provides for appropriation to the Contingency Reserve of not less than 0.25 per cent and not more than 0.5 per cent of the original cost of Fixed Assets annually towards in the calculation of ARR. The amount is to be invested in securities authorised under the Indian Trusts Act, 1882 within six months of the close of the financial year. MSEDCL has neither provisioned for any addition in Contingency Reserve in FY 2017-18 nor planned for investment within the timelines stipulated. Accordingly, for provisional truing-up, taking into account MSEDCL's submissions and the considerations explained in the truing-up for FY 2016-17, the Commission has not considered any amount towards contribution to Contingency Reserve in FY 2017-18 either.

**Table 5-45: Contribution to Contingency Reserve for FY 2017-18 as considered by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Approved in this Order |
|---|---|---|---|
| Contribution to Contingency Reserve | 129 | - | - |

### 5.15. Incentives and Discounts for FY 2017-18

***MSEDCL's Submission***

5.15.1. MSEDCL has estimated the incentives and discounts at 5% over the previous year.

**Table 5-46: Incentives and Discounts for FY 2017-18 submitted by MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) |
|---|---|---|
| Incentives/Discounts | 285 | 247 |

***Commission's Analysis and Ruling***

5.15.2. The Commission has provisionally approved incentives and discounts as estimated by MSEDCL, subject to prudence check at the time of truing-up.

**Table 5-47: Incentives and Discounts approved for FY 2017-18 (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Approved in this Order |
|---|---|---|---|
| Incentives/Discounts | 285 | 247 | 247 |

### 5.16. Non-Tariff Income for FY 2017-18

***MSEDCL's Submission***

5.16.1. MSEDCL has certain sources of non-tariff income viz. interest on arrears of consumers, delayed payment charges, interest on staff loans and advances, sale of scrap, interest on investment, rebate on power purchase, etc.

5.16.2. MSEDCL stated that it has not considered the DPC and Interest on DPC as provided in the MYT Regulations 2015. A Comparison of non-tariff income as per the provisional information available and as approved by the Commission, for FY 2017-18 are presented in the Table below:

**Table 5-48: Non-Tariff Income as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) |
|---|---|---|
| Rents of land or buildings | 2 | 1 |
| Sale of Scrap | 11 | 51 |
| Income from investments | 19 | 16 |
| Open access charges | 12 | - |
| Interest from Franchisee | 4 | 85 |
| Income from sale of tender documents | - | 6 |
| Rebate on power purchase | 78 | - |
| Prompt payment discount from REC/PFC | - | 15 |

| Particulars | MYT Order | MSEDCL (Provisional) |
|---|---|---|
| Other/Miscellaneous receipts | 671 | 912 |
| Recovery from theft and malpractice | 67 | - |
| **Total** | **864** | **1,086** |

***Commission's Analysis and Ruling***

5.16.3. The Commission has examined various heads under which MSEDCL has proposed under Non-Tariff Income. These heads have been projected by MSEDCL with an increase of 5% over the actual income received in FY 2016-17. Commission has accepted the projections against these heads on a provisional basis, subject to truing-up after prudence check.

5.16.4. The Commission has not considered income from grants and contribution reported under non-tariff income amounting to Rs. 638 Crore, as the treatment to the same is already considered once while allowing depreciation for the FY 2015-16. The detail rationale for this treatment linked to accounting practice is elaborated under the section for depreciation in the said chapter for FY 2015-16.

5.16.5. In the light of the above, the Commission has approved the following Non-Tariff Income provisionally for FY 2017-18.

**Table 5-49: Non-Tariff Income for FY 2017-18, as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Approved in this Order |
|---|---|---|---|
| Non-Tariff Income | 864 | 1,086 | 448 |

## 5.17. Income from Wheeling Charges for FY 2017-18

***MSEDCL's Submission***

5.17.1. MSEDCL has estimated income from Wheeling Charges with a 5% increase over the actual income received in FY 2016-17. The comparison of income from Wheeling Charges as estimated by MSEDCL and as earlier approved by the Commission is presented in the Table below:

**Table 5-50: Income from Wheeling Charges for FY 2017-18 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) |
|---|---|---|
| Income from Wheeling Charges | 5 | 1 |

***Commission's Analysis and Ruling***

5.17.2. The Commission has accepted the wheeling projected by MSEDCL on provisional basis. The approved wheeling charge is as shown below.

**Table 5-51: Income from Wheeling Charges for FY 2017-18 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Approved in this Order |
|---|---|---|---|
| Income from Wheeling Charges | 5 | 1 | 1 |

## 5.18. Income from Open Access Charges for FY 2017-18

***MSEDCL's Submission***

5.18.1. MSEDCL has estimated income from OA Charges in FY 2017-18 by considering an escalation of 5% over the actual income received in FY 2016-17. The comparison of income from OA Charges as estimated by MSEDCL and as earlier approved by the Commission for FY 2017-18 is presented in the Table below:

**Table 5-52: Income from Open Access Charges for FY 2017-18 as per MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) |
|---|---|---|
| Income from Open Access Charges | 623 | 536 |

***Commission's Analysis and Ruling***

5.18.2. The Commission has accepted the income on open access charges projected by MSEDCL on provisional basis. The approved wheeling charge is as shown below.

**Table 5-53: Income from Open Access Charges for FY 2017-18 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Approved in this Order |
|---|---|---|---|
| Income from Open Access Charges | 623 | 536 | 536 |

### 5.19. Impact of payment to MPECS in future years

5.19.1. The Commission in the MYT Order dated 3rd November 2016 has approved following amount towards payment to MPECS. MSEDCL has considered the same amount for the respective year.

**Table 5-54: Impact of payment to MPECS, as approved by Commission (Rs. Crore)**

| Financial Year | Amount (Rs. Crore) |
|---|---|
| FY 2017-18 | 46.20 |
| FY 2018-19 | 43.18 |
| FY 2019-20 | 40.17 |

***Commission's Analysis and Ruling***

5.19.2. The Commission has approved the amount towards payment to MPECS as the same was allowed under the MYT Order. The Commission shall consider the actual amount towards this head at the time of truing up of FY 2017-18.

### 5.20. Revenue for FY 2017-18

5.20.1. MSEDCL has considered the revenue for FY 2017-18 as per the provisional figures available. MSEDCL submitted that the provisional revenue from fixed/demand charges during FY 2017-18 is lower than that approved by the Commission for HT Industries.

| Fixed/Demand Charges | MYT Order | Actual (Rs. Crore) |
|---|---|---|
| HT Industries | 3,268 | 2,160 |

5.20.2. MSEDCL submitted that the revenue for FY 2017-18 also includes the impact of revenue refund of LBT expenses to customers. The comparison of revenue as per the provisional information available and as approved by the Commission, for FY 2017-18 is presented in the Table below:

**Table 5-55: Revenue for FY 2017-18, as submitted by MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) |
|---|---|---|
| Revenue | 63,775 | 60,539 |

***Commission's Analysis and Ruling***

5.20.3. The Commission observes that the revenue submitted by MSEDCL is the unaudited revenue collected till March 2018 and thus represents the total revenue of FY 2017-18. The same is allowed on provisional basis and shall be considered at actuals at the time of truing up, subject to prudence check.

**Table 5-56: Revenue for FY 2017-18, as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Approved in this Order |
|---|---|---|---|
| Revenue | 63,775 | 60,539 | 60,539 |

## 5.21. Income from Additional Surcharge

***MSEDCL's Submission***

5.21.1. A comparison of the income from Additional Surcharge as per the provisional information available and as approved by the Commission in MYT Order dated 3rd November 2016 is shown in the table below.

**Table 5-57: Income from Additional Surcharge for FY 2017-18, as submitted by MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) |
|---|---|---|
| Income from Additional Surcharge | 710 | 119 |

***Commission's Analysis and Ruling***

5.21.2. For the purpose of provisional approval, the Commission approves the income from Additional Surcharge as projected by MSEDCL for FY 2017-18. It is observed that MSEDCL has considered the projection of such charges without linking to the per unit additional surcharge and the quantum proposed in its Petition.

5.21.3. The Commission however, will consider the actual income from Additional surcharge in FY 2017-18 at the time of truing up.

**Table 5-58: Income from Additional Surcharge for FY 2017-18, as approved by the Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Approved in this Order |
|---|---|---|---|
| Income from Additional Surcharge | 710 | 119 | 119 |

## 5.22. Income from Trading of Surplus Power

### *MSEDCL's Submission*

5.22.1. MSEDCL submitted that during the FY 2017-18, it has traded around 580 MUs and received about Rs. 180 Crs from trading of such surplus power. The same has been considered for FY 2017-18 as shown below.

**Table 5-59: Income from Trading of Surplus Power for FY 2017-18, as submitted by MSEDCL (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) |
|---|---|---|
| Income from Trading of Surplus Power | - | 180 |

### *Commission's Analysis and Ruling*

5.22.2. The Commission has accepted the income from Trading of Surplus Power projected by MSEDCL on provisional basis. The approved wheeling charge is as shown below.

**Table 5-60: Income from Trading Surplus in FY 2017-18 as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Approved in this Order |
|---|---|---|---|
| Income from Trading of Surplus Power | - | 180 | 180 |

## 5.23. Segregation of Wires and Supply ARR

5.23.1. Regulation 68 of the MYT Regulations, 2015 outlines the requirement of separation of accounts of Distribution Licensee into Distribution Wires Business and Retail Supply Business. It also stipulates that, in the absence of separate accounting records, the Allocation Matrix specified in the Regulations should be used for apportioning the ARR.

5.23.2. The Allocation Matrix is set out in the previous Chapter on truing-up for FY 2016-17, and MSEDCL has presented the Wires and Supply ARRs for FY 2017-18 based on it. As elaborated in earlier paragraphs, the Commission has analysed the various components of the respective ARRs in accordance with the Regulations, and has approved the ARR for FY 2017-18 as set out below.

## 5.24. Aggregate Revenue Requirement for FY 2017-18

### *MSEDCL's Submission*

5.24.1. Based on the analysis, the summary of ARR for the Wires Business and Supply Business, as per provisional information available and as approved by the Commission, for FY 2017-18 is presented in the Table below.

**Table 5-61: Aggregate Revenue Requirement for Wires Business for FY 2017-18 as per MSEDCL (Rs. Crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Difference |
|---|---|---|---|
| Operation & Maintenance Expenses | 3,957 | 4,655 | 698 |
| Depreciation | 2,078 | 2,452 | 374 |
| Interest on Loan Capital | 2,042 | 1,428 | (614) |
| Interest on Working Capital | 137 | 131 | (6) |
| Interest on deposit from Consumers and Distribution System Users | 72 | 66 | (6) |
| Other Finance Charges | - | - | - |
| Provision for bad and doubtful debts | 26 | 49 | 23 |
| Other Expenses | | | - |
| Contribution to contingency reserves | 116 | - | (116) |
| Income Tax | | - | - |
| Return on Equity Capital | 1,499 | 1,722 | 223 |
| **Aggregate Revenue Requirement** | **9,927** | **10,504** | **577** |
| Less : Income from Wheeling Charges | 5 | 1 | (4) |
| Less: Income from Open Access Charges | 623 | 536 | (87) |
| **Aggregate Revenue Requirement from Distribution Wires** | **9,299** | **9,966** | **668** |

**Table 5-62: Aggregate Revenue Requirement for Supply Business for FY 2017-18 as per MSEDCL (Rs. Crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Difference |
|---|---|---|---|
| Power Purchase Expenses (including Inter-State Transmission Charges) | 47,958 | 49,130 | 1,172 |
| Operation & Maintenance Expenses | 2,131 | 2,507 | 376 |
| Depreciation | 231 | 272 | 41 |
| Interest on Loan Capital | 227 | 159 | (68) |

| Particulars | MYT Order | MSEDCL (Provisional) | Difference |
|---|---|---|---|
| Interest on Working Capital | - | - | - |
| Interest on Consumer Security Deposit | 650 | 597 | (53) |
| Other Finance Charges | | - | - |
| Provision for bad and doubtful debts | 232 | 442 | 210 |
| Other Expenses | 16 | 65 | 49 |
| Income Tax | | - | - |
| Intra-State Transmission Charges | 5,824 | 4,812 | (1,012) |
| Incentives/Discounts | 285 | 247 | (38) |
| Contribution to contingency reserves | 13 | - | (13) |
| Prior Period Expenses | | | - |
| DSM Expenses | | 1 | 1 |
| Return on Equity Capital | 188 | 216 | 28 |
| RLC refund | | | - |
| ASC refund | | | - |
| Effect of sharing of gains/losses | (635) | | 635 |
| Past Period Surplus | (1,116) | (1,116) | - |
| Amount of compensation paid to consumers | | | - |
| Impact of payment to MPECS in future years | 46 | 46 | - |
| **Total Revenue Expenditure** | **56,050** | **57,377** | **1,327** |
| Revenue from Sale of Power | 63,775 | 60,539 | (3,236) |
| Non-Tariff Income | 864 | 1,086 | 222 |
| Income from Additional Surcharge | 710 | 119 | (591) |
| Income from Trading of Surplus Power | | 180 | 180 |
| **Total Revenue** | **65,349** | **61,924** | **(3,425)** |

**Table 5-63: Aggregate Revenue Requirement for FY 2017-18 as per MSEDCL (Rs. Crore)**

| Particulars | MYT Order | MSEDCL (Provisional) | Deviation |
|---|---|---|---|
| Power Purchase Expense | 47,958 | 49,130 | 1,172 |
| O&M Expenses | 6,088 | 7,162 | 1,074 |
| Depreciation Expenses | 2,309 | 2,724 | 415 |
| Interest on Loan Capital | 2,269 | 1,586 | (683) |
| Interest on Working Capital | 137 | 131 | (6) |
| Interest on Consumer Security Deposit | 722 | 664 | (58) |
| Provision for Bad & Doubtful Debts | 258 | 492 | 234 |
| Other Expenses | 16 | 65 | 49 |

| Particulars | MYT Order | MSEDCL (Provisional) | Deviation |
|---|---|---|---|
| InST Charges MSLDC Charge | 5,824 | 4,812 | (1,012) |
| Incentives/Discounts | 285 | 247 | (38) |
| Contribution to Contingency Reserves | 129 | 0 | (129) |
| DSM Expenses | 0 | 1 | 1 |
| RoE Capital | 1,687 | 1,938 | 251 |
| Effect of sharing of gains/losses | (635) | 0 | 635 |
| Past Period adjustment by Commission | (1,116) | (1,116) | 0 |
| Impact of payment to MPECS in future years | 46 | 46 | 0 |
| **Aggregate Revenue Requirement** | **65,977** | **67,882** | **1,904** |
| Revenue from Sale of Power | 63,775 | 60,539 | (3,236) |
| Non-Tariff Income | 864 | 1,086 | 222 |
| Income from Open Access Charges | 623 | 536 | (87) |
| Income from Trading of Surplus Power | - | 180 | 180 |
| Income from Wheeling Charges | 5 | 1 | (4) |
| Income from Additional Surcharge | 710 | 119 | (591) |
| **Total Revenue** | **65,977** | **62,461** | **(3,516)** |
| **Revenue Gap/(Surplus)** | **-** | **5,420** | **5,420** |

***Commission's Analysis and Ruling***

5.24.2. Based on the component-wise analysis set out in earlier Sections, the summary of the ARR for the Wires Business and Supply Business, as claimed by MSEDCL and as provisionally approved by the Commission, for FY 2017-18 is presented in the Tables below.

**Table 5-64: ARR for Wires Business for FY 2017-18, as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Operation & Maintenance Expenses | 3,957 | 4,655 | 4,544 |
| Depreciation | 2,078 | 2,452 | 1,965 |
| Interest on Loan Capital | 2,042 | 1,428 | 1,428 |
| Interest on Working Capital | 137 | 131 | 130 |
| Interest on Deposits from Consumers and Distribution System Users | 72 | 66 | 74 |
| Provision for Bad and Doubtful Debts | 26 | 49 | 49 |

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Contribution to Contingency Reserves | 116 | 0 | 0 |
| **Total Revenue Expenditure** | **8,428** | **8,782** | **8,190** |
| Return on Equity Capital | 1,499 | 1,722 | 1,643 |
| **Aggregate Revenue Requirement** | **9,927** | **10,504** | **9,833** |
| Less: | | | |
| Income from Wheeling Charges | 5 | 1 | 1 |
| Income from Open Access Charges | 623 | 536 | 536 |
| **Aggregate Revenue Requirement from Distribution Wires** | **9,299** | **9,966** | **9,296** |

**Table 5-65: ARR for Supply Business for FY 2017-18, as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Power Purchase Expenses (incl. Inter-State Transmission Charges) | 47,958 | 49,130 | 49,130 |
| Operation & Maintenance Expenses | 2,131 | 2,507 | 2,447 |
| Depreciation | 231 | 272 | 218 |
| Interest on Loan Capital | 227 | 159 | 159 |
| Interest on Working Capital | 0 | 0 | 0 |
| Interest on Deposits from Consumers and Distribution System Users | 650 | 597 | 666 |
| Provision for Bad and Doubtful Debts | 232 | 442 | 442 |
| Other Expenses | 16 | 65 | 63 |
| Intra-State Transmission Charges, incl. MSLDC Fees & Charges | 5,824 | 4,812 | 4,812 |
| Contribution to Contingency Reserves | 13 | 0 | 0 |
| Incentives/Discounts | 285 | 247 | 247 |
| DSM expenses | 0 | 1 | 1 |
| **Total Revenue Expenditure** | **57,566** | **58,231** | **58,185** |
| Return on Equity Capital | 188 | 216 | 183 |
| **Aggregate Revenue Requirement** | **57,754** | **58,447** | **58,368** |
| Less: | | | |
| Non-Tariff Income | 864 | 1,086 | 448 |
| Income from Additional Surcharge | 710 | 119 | 119 |

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| **Aggregate Revenue Requirement from Retail Supply** | **56,181** | **57,242** | **57,801** |

**Table 5-66: Combined ARR for FY 2017-18 (Wires + Supply), as approved by Commission (Rs. crore)**

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Power Purchase Expenses | 47,958 | 49,130 | 49,130 |
| Operation & Maintenance Expenses | 6,088 | 7,162 | 6,991 |
| Depreciation Expenses | 2,309 | 2,724 | 2,183 |
| Interest on Loan Capital | 2,269 | 1,586 | 1,586 |
| Interest on Working Capital | 137 | 131 | 130 |
| Interest on Deposits from Consumers and Distribution System Users | 722 | 664 | 740 |
| Provision for Bad and Doubtful Debts | 258 | 492 | 492 |
| Other Expenses | 16 | 65 | 63 |
| Intra-State Transmission Charges and MSLDC Charges | 5,824 | 4,812 | 4,812 |
| Incentives/Discounts | 285 | 247 | 247 |
| Contribution to Contingency Reserves | 129 | 0 | 0 |
| DSM expenses | 0 | 1 | 1 |
| **Total Revenue Expenditure** | **65,994** | **67,013** | **66,375** |
| Return on Equity Capital | 1,687 | 1,938 | 1,826 |
| **Aggregate Revenue Requirement** | **67,681** | **68,951** | **68,201** |
| Effect of Provisional sharing of gains/losses | (635) | 0 | 0 |
| Impact of payment to MPECS in future years | 46 | 46 | 46 |
| Less: | | | |
| Non-Tariff Income | 864 | 1,086 | 448 |
| Income from Wheeling Charges | 5 | 1 | 1 |
| Income from Open Access Charges | 623 | 536 | 536 |
| **Aggregate Revenue Requirement from Retail Tariff** | **65,601** | **67,374** | **67,262** |
| Revenue from Sale of Power | 63,775 | 60,539 | 60,539 |

| Particulars | MYT Order | MSEDCL Petition | Approved in this Order |
|---|---|---|---|
| Income from Trading of Surplus Power | 0 | 180 | 180 |
| Income from Additional Surcharge | 710 | 119 | 119 |
| Past Period Adjustment by Commission | (1,116) | (1,116) | (1,116) |
| **Revenue Gap/(Surplus)** | **-** | **5,420** | **5,308** |

# 6. REVISED AGGREGATE REVENUE REQUIREMENT FOR FY 2018-19 AND FY 2019-20

## 6.1. Background

6.1.1. MSEDCL has sought approval for projection of ARR for FY 2018-19 and FY 2019-20 based on MYT Regulations, 2015.

6.1.2. The Commission's analysis and approval of various ARR components for FY 2018-19 and FY 2019-20 of the third Control Period is set out in the following Sections.

## 6.2. Segregation of Wires and Supply Business

***MSEDCL's Submission***

6.2.1. The Regulation 68 of MERC (Multi Year Tariff) Regulations, 2015 mentioned about separation of accounts of distribution licensee for the Distribution Wires Business and Retail Supply Business in accordance with the allocation matrix. MSEDCL submitted that it has not undertaken actual accounting separation between distribution wires business and retail supply business and has segregated the expenses based on the allocation matrix as provided in the Regulations.

***Commission's Analysis and Ruling***

6.2.2. Regulation 68 of the MYT Regulations, 2015 outlines the requirement of separation of accounts of Distribution Licensee into Distribution Wires Business and Retail Supply Business. It also stipulates that, in the absence of separate accounting records, the Allocation Matrix specified in the Regulations should be used for apportioning the ARR.

6.2.3. The Allocation Matrix is set out in the previous Chapter on truing-up for FY 2016-17, and MSEDCL has presented the Wires and Supply ARRs for FY 2018-19 and FY 2019-20 based on it. As elaborated in earlier paragraphs, the Commission has analysed the various components of the respective ARRs in accordance with the Regulations, and has approved the ARR for FY 2018-19 and FY 2019-20 as set out below.

## 6.3. Sales projections for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.3.1. In reference to Regulation 79.1 of MERC MYT Regulations, 2015, MSEDCL has submitted month-wise forecast of the expected sales of electricity to each category/ sub-category. The relevant extracts of the Regulation are reproduced below:

> "*79. Sales forecast—*
>
> *79.1 The Distribution Licensee shall submit a month-wise forecast of the expected sales of electricity to each Tariff category/sub-category and to each Tariff slab within such Tariff category/sub-category to the Commission for approval along with the MultiYear Tariff Petition, as specified in these Regulations:*
>
> *Provided that the Distribution Licensee shall submit relevant details regarding category-wise sales separately for each Distribution Franchisee area within its Licence area, as well as the aggregated category-wise sales in its Licence area.*
>
> *79.2 The sales forecast shall be consistent with the load forecast prepared as part of the power procurement plan under Part C of these Regulations and shall be based on past data and reasonable assumptions regarding the future :*
>
> *Provided that where the Commission has stipulated a methodology for forecasting sales to any particular Tariff category, the Distribution Licensee shall incorporate such methodology in developing the sales forecast for such Tariff category.*"

6.3.2. MSEDCL further submitted that historical trend method has proved to be a reasonably accurate and well accepted method for estimating the load, number of consumers and energy consumption. MSEDCL has estimated the energy consumption for various consumer categories primarily based on the CAGR trends during the past years. MSEDCL has submitted that the growth factors have been corrected to arrive at more realistic projections, wherever the trend is unreasonable/ unsustainable or there is impact of open access on industrial consumption.

6.3.3. MSEDCL has submitted the break-up of the past sales and the CAGR growth rates for different periods (5 years, 3 years and year on year) in the following tables. MSEDCL has further submitted that various open access consumers had returned to MSEDCL for purchase of power, due to which there is significant rise in sales for FY 2017-18 over FY 2016-17. Thus for the purpose of computing the CAGR for HT industrial sales, FY 2017-18 sales have been normalized by deducting the incremental sales of 3,000 MU.

6.3.4. From the perusal of historical HT industrial sales, it has also been observed that no clear trend is visible in sales trajectory for computation of 3 year CAGR and hence, 4 years CAGR has been computed in HT industrial sales. Hence, MSEDCL has submitted the following historical trend in HT Category sales growth for MSEDCL (including all Franchisee):

**Table 6-1: Historical Sales Growth and CAGR (HT Category)**

| Category | FY 12-13 | FY 13-14 | FY 14-15 | FY 15-16 | FY 16-17 | FY 17-18 | 5 year CAGR | 3 Year CAGR* | Y-oY Growth |
|---|---|---|---|---|---|---|---|---|---|
| **HT-I Industries** | | | | | | | | | |
| HT-IND 11 AND 22 KV | 12,718 | 12,225 | 12,356 | 11,764 | 11,946 | 13,251 | 0% | 1% | 6% |
| HT-IND 33 KV | 7,606 | 7,117 | 7,553 | 7,079 | 6,764 | 8,548 | -1% | 1% | 8% |
| HT-IND EHV | 5,793 | 4,354 | 4,977 | 4,151 | 4,392 | 6,561 | -1% | 6% | 24% |
| HT-SEASONAL | 167 | 143 | 147 | 83 | 94 | 102 | -9% | -12% | 8% |
| **Total : HT-I Industries** | **26,284** | **23,840** | **25,033** | **23,076** | **23,196** | **28,461** | **-1%** | **2%** | **10%** |
| **HT-II Commercial** | | | | | | | | | |
| HT-COMM 11 AND 22 KV | 1,566 | 1,679 | 1,908 | 2,038 | 1,882 | 1,806 | 3% | -2% | -4% |
| HT-COMM 33 KV | 131 | 115 | 117 | 101 | 105 | 76 | -10% | -13% | -27% |
| HT-COMM EHV | 195 | 200 | 106 | 38 | 41 | 42 | -26% | -27% | 3% |
| **Total : HT-II Commercial** | **1,892** | **1,994** | **2,130** | **2,177** | **2,027** | **1,924** | 0% | -3% | -5% |
| **HT III Railways** | **1,518** | **1,487** | **1,501** | **994** | **17** | **66** | -47% | -65% | 294% |
| **HT IV-PWW** | **1,282** | **1,517** | **1,676** | **1,747** | **1,733** | **1,911** | 8% | 4% | 10% |
| **HT V Agricultural** | **767** | **710** | **712** | **833** | **859** | **766** | 0% | 2% | -11% |
| **HT VI Bulk Supply (Housing Comp** | **265** | **229** | **229** | **242** | **228** | **226** | -3% | 0% | -1% |
| **HT Temporary** | **11** | **5** | **5** | **5** | **4** | **5** | -15% | -4% | 30% |
| **HT-IX Public services** | **619** | **774** | **910** | **971** | **971** | **1,002** | 10% | 3% | 3% |
| **MSPGCL AUX SUPPLY** | **3** | **14** | **60** | **83** | **179** | **218** | 139% | 54% | 22% |
| **HT AG Others (Poultry)** | **82** | **100** | **134** | **160** | **187** | **208** | 20% | 16% | 11% |
| **Sub total -HT Sales** | **32,723** | **30,669** | **32,390** | **30,288** | **29,400** | **34,788** | **1.2%** | **2.4%** | **18.3%** |

6.3.5. Historical trend in LT category sales growth (including all franchisee) is given in following table:

**Table 6-2: Historical Sales Growth and CAGR (LT Category)**

| Category | FY 2012-13 | FY 2013-14 | FY 2014-15 | FY 2015-16 | FY 2016-17 | FY 2017-18 | 5 year CAGR | 3 Year CAGR* | Y-oY Growth |
|---|---|---|---|---|---|---|---|---|---|
| **LT Category** | | | | | | | | | |
| LT I -BPL | 188 | 138 | 102 | 77 | 61 | 54 | -22% | -19% | -11% |
| LT I Domestic | 15,426 | 16,281 | 17,678 | 18,861 | 18,962 | 19,824 | 5% | 4% | 5% |
| 1-100 Units | 10,229 | 10,849 | 11,548 | 12,167 | 12,265 | 12,694 | 4% | 3% | 3% |
| 101-300 Units | 3,795 | 4,006 | 4,536 | 4,887 | 4,820 | 5,140 | 6% | 4% | 7% |
| 301-500 Units | 626 | 637 | 744 | 815 | 836 | 878 | 7% | 6% | 5% |
| 501-1000 Units | 388 | 396 | 447 | 499 | 537 | 553 | 7% | 7% | 3% |
| Above 1000 Units | 388 | 394 | 402 | 493 | 504 | 560 | 8% | 12% | 11% |
| LT II Non Domestic | 3,998 | 3,914 | 4,087 | 4,358 | 4,524 | 5,403 | 6% | 10% | 19% |
| LT III PWW | 606 | 593 | 627 | 673 | 691 | 716 | 3% | 5% | 4% |
| LT IV Agriculture | 20,141 | 20,915 | 25,786 | 27,512 | 27,525 | 29,669 | 8% | 5% | 8% |
| LT IV - Unmetered | 9,890 | 10,042 | 12,050 | 12,003 | 11,977 | 11,090 | 2% | -3% | -7% |
| LT IV Metered incl Poultry | 10,250 | 10,873 | 13,736 | 15,509 | 15,548 | 18,579 | 13% | 11% | 19% |
| LT V Powerloom | 2,794 | 2,878 | 3,222 | 3,243 | 3,270 | 3,644 | 5% | 4% | 11% |
| LT V Industrial General | 4,343 | 4,599 | 4,816 | 5,026 | 5,114 | 4,954 | 3% | 1% | -3% |
| LT VI Streetlight | 1,227 | 1,328 | 1,498 | 1,667 | 1,751 | 1,817 | 8% | 7% | 4% |
| LT VII-Temporary Connection | 37 | 23 | 19 | 18 | 16 | 16 | -15% | -5% | 3% |
| LT VIII Advertisement & Hoardings | 4 | 3 | 3 | 3 | 4 | 4 | 4% | 11% | 9% |
| LT IX – Crematoriums & Burial Grounds | 1 | 2 | 1 | 1 | 2 | 2 | 6% | 10% | 5% |
| LT X - Public services | 14 | 87 | 203 | 307 | 361 | 428 | 99% | 28% | 19% |
| LT - Prepaid | 8 | 12 | 13 | - | - | - | -100% | -100% | |
| P.D. Consumers | (5) | (14) | (10) | (11) | (5) | (9) | 14% | -4% | 85% |
| **LT Total** | **48,781** | **50,760** | **58,046** | **61,736** | **62,275** | **66,523** | **6%** | **5%** | **7%** |
| **Total** | **81,504** | **81,429** | **90,435** | **92,024** | **91,674** | **1,01,311** | **4%** | **4%** | **11%** |

6.3.6. MSEDCL has submitted that the growth is not as expected in the 16th or 17th EPS due to among others considerable increase in Open Access transactions. MSEDCL has considered the 3-year CAGR for projecting the sales. The growth factors have been corrected to arrive at more realistic projections, wherever the trend is unreasonable/ unsustainable. MSEDCL has submitted the category-wise CAGR considered for projecting the sales for the period FY 2018-19 and FY 2019-20 in the following table.

**Table 6-3: CAGR Considered for Sales Projections (HT Category)**

| Consumer Category | CAGR Considered | Justification/Rationale |
|---|---|---|
| HT-Ind 11 AND 22 KV | 1% | 4 Year CAGR |
| HT-Ind 33 KV | 1% | 4 Year CAGR |
| HT-Ind EHV | 6% | 4 Year CAGR |
| HT-Comm 11 AND 22 KV | -2% | 3 Year CAGR |
| HT-Comm 33 KV | 0% | 3 Year CAGR -13%, however, quantum being very low CAGR considered 0% |
| HT-Comm EHV | 0% | 3 Year CAGR -27%, however, quantum being very low CAGR considered 0% |
| HT-III Railways/Metro/Mono | 0% | 3 Year CAGR -65%, however, quantum being very low CAGR considered 0% |
| HT-PWW 11 AND 22 KV | -4% | 3 Year CAGR |
| HT-PWW 33 KV | 9% | 3 Year CAGR |
| HT-PWW EHV | 10% | 3 Year CAGR 85% being abnormal, Realistic growth of 10% considered. |
| HT-Agriculture 11 AND 22 KV | 2% | 3 Year CAGR |
| HT-Agriculture 33 KV | 3% | 3 Year CAGR |
| HT-Agriculture EHV | 3% | 3 Year CAGR |
| HT-Public SER.-GOVT 11 AND 22 KV | 10% | Y-o-Y growth 12%, Realistic growth of 10% |
| HT-Public SER.-GOVT 33 KV | 10% | Y-o-Y growth 348%, Realistic growth of 10% |
| HT-Public SER.-GOVT EHV | 0% | No sales hence 0% |
| HT-Public SER.-OTHER 11 AND 22 KV | -2% | 3 Year CAGR |
| HT-Public SER.-OTHER 33 KV | 3% | 3 Year CAGR |
| HT-Public SER.-OTHER EHV | 10% | 3 Year CAGR |
| HT-AG Others 11 AND 22 KV | 10% | 3 Year CAGR 16%, Realistic growth of 10% |
| HT-AG Others 33 KV | 10% | 3 Year CAGR 11%, Realistic growth of 10% |
| HT-AG Others EHV | 0% | No sales hence 0% |

6.3.7. MSEDCL has submitted that since November 2015, Railways has got status of Deemed Licensee and the sales of Railways has reduced drastically. However, few consumers are still with MSEDCL. Considering the sales of FY 2017-18, MSEDCL has projected the sales of Railways to remain at current level.

6.3.8. The category wise CAGRs considered for the period FY 2018-19 to FY 2019-20 for LT Category have been shown in the following table:

**Table 6-4: CAGR Considered for Sales Projections (LT Category)**

| Consumer Category | CAGR Considered | Justification/Rationale |
|---|---|---|
| LT-I (A): LT- BPL | 0% | 3 Year CAGR -19%, further quantum being very low CAGR considered 0% |
| LT-I (B) : LT-Residential( Other than BPL) | | |
| 1-100 Units | 3% | 3 Year CAGR |
| 101-300 Units | 4% | 3 Year CAGR |
| 301-500 Units | 6% | 3 Year CAGR |
| 501-1000 Units | 7% | 3 Year CAGR |
| Above 1000 Units | 12% | 3 Year CAGR |
| LT-II : LT- Non Residential | | |
| 0-20 KW | 10% | 3 Year CAGR |
| >20-<=50 KW | 9% | 3 Year CAGR |
| >50 KW | 9% | 3 Year CAGR |
| LT-III : LT-Public Water Works | | |
| 0-20 KW | 4% | 3 Year CAGR |
| 20-<=40 KW | 6% | 3 Year CAGR |
| > 40 KW | 6% | 3 Year CAGR |
| LT-IV: LT-Agriculture | | |
| LT-AG-Unmetered (Pumpsets) | 0% | No new connections, hence 0% |
| LT-AG Metered (Pumpsets) | 6% | 3 Year CAGR 10%, Realistic growth of 6% |
| LT-AG Metered (Others) | 10% | YoY Growth 14%, Realistic growth of 10% |
| LT V(A) : LT Industry- Power Looms | | |
| 0-20 KW (Upto & including 27 HP) | -3% | 3 Year CAGR |
| Above 20 KW (above 27 HP) | 14% | 3 Year CAGR |
| LT V(B) : LT Industry- General | | |
| 0-20 KW (Upto & including 27 HP) | -5% | 3 Year CAGR |
| Above 20 KW (above 27 HP) | 5% | 3 Year CAGR |
| LT X - Public services - Govt | | |
| 0-20 KW | 10% | YoY Growth 27%, Realistic growth of 10% |
| >20-50 kW | 12% | YoY Growth |
| >50 kW | 10% | YoY Growth 21%, Realistic growth of 10% |

| Consumer Category | CAGR Considered | Justification/Rationale |
|---|---|---|
| LT X - Public services - Other | | |
| 0-20 KW | 10% | 3 Year CAGR 18%, Realistic growth of 10% |
| >20-50 kW | 10% | 3 Year CAGR 29%, Realistic grow of 10% |
| >50 kW | 10% | 3 Year CAGR 33%, Realistic growth of 10% |

6.3.9. MSEDCL has considered the provisional sales of FY 2017-18 as the base for projection of sales for FY 2018-19 and FY 2019-20. Based on the provisional sales for FY 2017-18 and the CAGRs as shown in above tables, MSEDCL has projected the sales for various categories. The sales projections of HT Categories (Excluding 2 Franchisee) for the period FY 2018-19 to FY 2019-20 are shown in the following table:

**Table 6-5: Sales Projections-Excluding DF (HT category) (MUs)**

| Consumer Category | FY 2018-19 (Projected) | FY 2019-20 (Projected) |
|---|---|---|
| **HT Category** | | |
| HT-IND 11 AND 22 KV | 12,998 | 13,097 |
| HT-IND 33 KV | 8,611 | 8,673 |
| HT-IND EHV | 6,937 | 7,335 |
| HT-SEASONAL | 102 | 102 |
| **Total : HT-I Industries** | **28,648** | **29,208** |
| **HT-II Commercial** | | |
| HT-COMM 11 AND 22 KV | 1,691 | 1,660 |
| HT-COMM 33 KV | 76 | 76 |
| HT-COMM EHV | 42 | 42 |
| **Total : HT-II Commercial** | **1,809** | **1,778** |
| **HT III Railways** | 59 | 59 |
| **HT IV-PWW** | 1,521 | 1,525 |
| **HT V Agricultural** | 785 | 804 |
| **HT VI Bulk Supply (Housing Complex)** | 217 | 216 |
| **HT Temporary** | 5 | 5 |
| **HT-IX Public services** | 993 | 1,017 |
| **MSPGCL AUX SUPPLY** | 218 | 218 |
| **HT AG Others (Poultry)** | 227 | 250 |
| **Total HT** | **34,481** | **35,080** |

6.3.10. Based on the above rate, it is estimated that HT category sales will grow at around 2% on YoY basis.

6.3.11. MSEDCL has taken a realistic view and proposed to convert 1,00,000 consumers per year to metered AG category. Considering average load of 5 HP and unmetered index of 1242 units/HP/annum, MSEDCL has calculated the consumption of these unmetered consumers as shown in the following table and the same is added to the consumption of metered category.

| Particulars | Units | FY 18-19 (Projected) | FY 19-20 (Projected) |
|---|---|---|---|
| No. of Consumers | Nos. | 1,00,000 | 1,00,000 |
| Avg HP per Consumer | HP | 5 | 5 |
| Total HP | HP | 5,00,000 | 5,00,000 |
| Index | Units/HP/Annum | 1,242 | 1,242 |
| **Consumption** | **MUs** | **621** | **621** |

6.3.12. Based on the provisional sales for FY 2017-18 and the CAGRs as shown in the above table, MSEDCL has projected the sales for various categories. The sales projections of LT categories (excluding 2 Franchisees) for the period FY 2018-19 to FY 2019-20 are shown in the following table:

**Table 6-6: Sales Projections Excluding DF (LT Category) (MUs)**

| Consumer Category | FY18-19 (Projected) | FY19-20 (Projected) |
|---|---|---|
| **LT Category** | | |
| LT-I (A): LT- BPL | 54 | 54 |
| **LT-I (B) : LT-Residential( Other than BPL)** | **19510** | **20,282** |
| 1-100 Units | 12498 | 12,899 |
| 101-300 Units | 4985 | 5,197 |
| 301-500 Units | 863 | 912 |
| 501-1000 Units | 560 | 601 |
| Above 1000 Units | 603 | 673 |
| **LT-II : LT- Non Residential** | | |
| 0-20 KW | 4235 | 4,653 |
| >20-<=50 KW | 850 | 929 |
| >50 KW | 493 | 540 |
| **LT-II : LT- Non Residential** | **5578** | **6,123** |
| LT-III : LT-Public Water Works | 746 | 780 |
| **LT-IV: LT-Agriculture** | **30778** | **32,002** |
| LT-AG-Unmetered (Pumpsets) | 10469 | 9,848 |
| LT-AG Metered (Pumpsets) | 20173 | 22,005 |
| LT-AG Metered (Others) | 136 | 150 |
| **LT V(A) : LT Industry- Power Looms** | **1985** | **2,135** |

| Consumer Category | FY18-19 (Projected) | FY19-20 (Projected) |
|---|---|---|
| 0-20 KW (Upto & including 27 HP) | 715 | 692 |
| Above 20 KW (above 27 HP) | 1270 | 1,443 |
| **LT V(B) : LT Industry- General** | **4700** | **4,780** |
| 0-20 KW (Upto & including 27 HP) | 1488 | 1,410 |
| Above 20 KW (above 27 HP) | 3212 | 3,370 |
| **Street Light (LT-VI)** | **1883** | **2,014** |
| **Temporary Connection (LT-VII)** | **16** | **16** |
| **LT-VIII : LT-Advertisements & Hordings** | **5** | **5** |
| **LT-IX : LT-Crematorium and Burial Grounds** | **2** | **2** |
| **LT X - Public services - Govt** | **52** | **58** |
| 0-20 KW | 35 | 38 |
| >20-50 kW | 9 | 10 |
| >50 kW | 8 | 9 |
| **LT X - Public services - Other** | **401** | **441** |
| 0-20 KW | 234 | 257 |
| >20-50 kW | 78 | 85 |
| >50 kW | 90 | 98 |
| **Total LT** | **65712** | **68,694** |
| **Total MSEDCL excl. DF** | **100193** | **1,03,774** |

6.3.13. MSEDCL has submitted that the DF Agreement for distribution of power in Bhiwandi Circle has been extended for a further period of 10 years with effect from January 26, 2017. Accordingly, the category-wise sales for the Bhiwandi & Nagpur DFs for the period for FY 2018-19 to FY 2019-20 have been projected using the CAGRs as indicated in foregoing paragraphs and estimated sales for FY 2017-18.

6.3.14. Considering the projected sales and estimated loss levels, MSEDCL has projected the input level sales of said DFs for FY 2018-19 and FY 2019-20 as shown in following table:

**Table 6-7: Input Sales for DFs (MU)**

| Particulars | FY 18-19 (Projected) | FY 19-20 (Projected) |
|---|---|---|
| **Bhiwandi** | | |
| Input Sales | **3,846** | **3,974** |
| **Nagpur** | | |
| Input Sales | **1,641** | **1,705** |

6.3.15. MSEDCL has merged the area of supply of MPECS for present projections subsequent to the decision of Hon'ble Commission in its Order dated 18th June, 2014 in Case No. 85 of 2010.

6.3.16. For projection of number of consumers, MSEDCL has again adopted the historical trend method for projecting the category wise number of consumers. The break up of category wise number of consumers and 3 year CAGR growth rates for the period FY 2017-18 over FY 2014-15 are as follows:

**Table 6-8: Historical Growth and CAGR No. of Consumers (HT Category)**

| Category | FY 14-15 | FY 15-16 | FY 16-17 | FY 17-18 | 3 Year CAGR | Y-o-Y Growth |
|---|---|---|---|---|---|---|
| **HT-I Industries** | | | | | | |
| HT-IND 11 AND 22 KV | 10,850 | 11,190 | 11,473 | 11,831 | 3% | 3% |
| HT-IND 33 KV | 1,034 | 1,086 | 1,103 | 1,175 | 4% | 7% |
| HT-IND EHV | 183 | 206 | 217 | 233 | 8% | 7% |
| HT-SEASONAL | 567 | 483 | 468 | 452 | -7% | -3% |
| **Total : HT-I Industries** | **12,634** | **12,965** | **13,261** | **13,691** | **3%** | **3%** |
| **HT-II Commercial** | | | | | | |
| HT-COMM 11 AND 22 KV | 2,833 | 2,847 | 2,899 | 2,936 | 1% | 1% |
| HT-COMM 33 KV | 50 | 57 | 45 | 40 | -7% | -11% |
| HT-COMM EHV | 28 | 21 | 12 | 12 | -25% | 0% |
| **Total : HT-II Commercial** | **2,911** | **2,925** | **2,956** | **2,988** | 1% | 1% |
| **HT III Railways** | **43** | **9** | **23** | **76** | 21% | 230% |
| **HT IV-PWW** | **927** | **945** | **977** | **950** | 1% | -3% |
| **HT V Agricultural** | **1,062** | **1,057** | **1,075** | **1,043** | -1% | -3% |
| **HT VI Bulk Supply (Housing Complex)** | **225** | **231** | **234** | **357** | 17% | 53% |
| **HT Temporary** | **10** | **7** | **10** | **11** | 3% | 10% |
| **HT-IX Public services** | **1,115** | **1,169** | **1,214** | **1,265** | 4% | 4% |
| **MSPGCL AUX SUPPLY** | **23** | **24** | **28** | **28** | 7% | 0% |
| **HT AG Others (Poultry)** | **390** | **443** | **478** | **388** | 0% | -19% |
| | | | | | | |
| **Total -HT Consumers** | **19,340** | **19,775** | **20,256** | **20,797** | **2%** | **3%** |

**Table 6-9: Historical Growth and CAGR No. of Consumers (LT Category)**

| Category | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 3 Year CAGR | Y-oY Growth |
|---|---|---|---|---|---|---|
| **LT Category** | | | | | | |
| LT I -BPL | 3,43,933 | 2,65,058 | 2,09,677 | 1,76,751 | -20% | -16% |
| LT I Domestic | 1,60,06,975 | 1,67,41,814 | 1,73,55,815 | 1,79,35,808 | 4% | 3% |
| LT II Non Domestic | 15,23,372 | 15,86,158 | 16,51,974 | 17,27,569 | 4% | 5% |
| LT III PWW | 47,903 | 49,666 | 51,300 | 51,100 | 2% | 0% |

| Category | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 3 Year CAGR | Y-oY Growth |
|---|---|---|---|---|---|---|
| LT IV Agriculture | 38,30,600 | 39,86,347 | 41,01,981 | 41,76,837 | 3% | 2% |
| LT IV -Unmetered | 16,01,847 | 15,90,617 | 15,40,817 | 15,04,408 | -2% | -2% |
| LT IV Metered incl Poultry | 22,28,753 | 23,95,730 | 25,61,164 | 26,72,429 | 6% | 4% |
| LT V Powerloom | 32,773 | 34,057 | 34,026 | 33,769 | 1% | -1% |
| LT V Industrial General | 2,93,041 | 3,00,616 | 2,99,055 | 2,89,760 | 0% | -3% |
| LT VI Streetlight | 83,503 | 86,334 | 88,978 | 91,343 | 3% | 3% |
| LT VII- Temporary Connection | 2,415 | 2,602 | 2,605 | 3,557 | 14% | 37% |
| LT VIII Advertisement & Hoardings | 1,876 | 2,054 | 2,334 | 2,317 | 7% | -1% |
| LT IX – Crematoriums & Burial Grounds | 117 | 143 | 167 | 188 | 17% | 13% |
| LT X - Public services | 71,334 | 76,370 | 81,588 | 90,551 | 8% | 11% |
| **Total LT Consumers** | **2,22,37,842** | **2,31,31,219** | **2,38,79,500** | **2,45,79,550** | **3.4%** | **2.9%** |
| **Total Consumers** | **2,22,57,182** | **2,31,50,994** | **2,38,99,756** | **2,46,00,347** | **3.4%** | **2.9%** |

6.3.17. MSEDCL has considered the following CAGRs for projecting the number of consumers for the period FY 2018-19 to FY 2019-20:

**Table 6-10: CAGR Considered for No. of Consumers Projections (HT Category)**

| Consumer Category | CAGR Considered | Justification/Rationale |
|---|---|---|
| HT-IND 11 AND 22 KV | 3% | 3 Year CAGR |
| HT-IND 33 KV | 4% | 3 Year CAGR |
| HT-IND EHV | 8% | 3 Year CAGR |
| HT-COMM 11 AND 22 KV | 1% | 3 Year CAGR |
| HT-COMM 33 KV | 0% | 3 Year CAGR -7%, Realistic growth of 0% |
| HT-COMM EHV | 0% | 3 Year CAGR -25%, Realistic growth of 0% |
| HT-III RAILWAYS/Metro/Mono | 0% | 3 Year CAGR 21%, Category being small, realistic growth of 0% has been considered |
| HT-PWW 11 AND 22 KV | 1% | 3 Year CAGR |
| HT-PWW 33 KV | 2% | 3 Year CAGR |
| HT-PWW EHV | 0% | 3 Year CAGR |
| HT-AGRICULTURE 11 AND 22 KV | -1% | 3 Year CAGR |
| HT-AGRICULTURE 33 KV | 2% | 3 Year CAGR |
| HT-AGRICULTURE EHV | 7% | 3 Year CAGR |
| HT-PUBLIC SER.-GOVT 11 AND 22 KV | 6% | YoY Growth rate |
| HT-PUBLIC SER.-GOVT 33 KV | 5% | YoY Growth rate is 100%. Realistic growth rate of 5% considered |
| HT-PUBLIC SER.-GOVT EHV | 0% | No consumer in this category, hence 0% |

| Consumer Category | CAGR Considered | Justification/Rationale |
|---|---|---|
| HT-PUBLIC SER.-OTHER 11 AND 22 KV | 0% | 3 Year CAGR -5%, Realistic growth of 0% |
| HT-PUBLIC SER.-OTHER 33 KV | 0% | 3 Year CAGR -3%, Realistic growth of 0% |
| HT-PUBLIC SER.-OTHER EHV | 0% | 3 Year CAGR |
| HT-AG OTHERS 11 AND 22 KV | 0% | 3 Year CAGR |
| HT-AG OTHERS 33 KV | 10% | 3 Year CAGR |
| HT-AG OTHERS EHV | 0% | No consumer in this category, hence 0% |

**Table 6-11: CAGR Considered for No. of Consumers Projections (LT Category)**

| Consumer Category | CAGR Considered | Justification/Rationale |
|---|---|---|
| LT-I (A): LT- BPL | 0% | 3 Year CAGR -20%, Realistic growth of 0% |
| LT-I (B) : LT-Residential( Other than BPL) | 4% | 3 Year CAGR |
| LT-II : LT- Non Residential | | |
| 0-20 KW | 4% | 3 Year CAGR |
| >20-<=50 KW | 9% | 3 Year CAGR |
| >50 KW | 11% | 3 Year CAGR |
| LT-III : LT-Public Water Works | | |
| 0-20 KW | 2% | 3 Year CAGR |
| 20-<=40 KW | 4% | 3 Year CAGR |
| > 40 KW | 5% | 3 Year CAGR 21%, Realistic growth of 5% |
| LT-IV: LT-Agriculture | | |
| LT-AG-Unmetered (Pumpsets) | -2% | 3 Year CAGR |
| LT-AG Metered (Pumpsets) | 6% | 3 Year CAGR |
| LT-AG Metered (Others) | 7% | 3 Year CAGR |
| LT V(A) : LT Industry- Power Looms | | |
| 0-20 KW (Upto & including 27 HP) | 0% | 3 Year CAGR |
| Above 20 KW (above 27 HP) | 5% | 3 Year CAGR 11%, Realistic growth of 5% |
| LT V(B) : LT Industry- General | | |
| 0-20 KW (Upto & including 27 HP) | 0% | 3 Year CAGR -1%, Realistic growth of 0% |
| Above 20 KW (above 27 HP) | 2% | 3 Year CAGR |
| LT X - Public services - Govt | | |
| 0-20 KW | 5% | YoY Growth Rate 29%, Realistic growth of 5% |

| Consumer Category | CAGR Considered | Justification/Rationale |
|---|---|---|
| >20-50 kW | 5% | YoY Growth Rate 14%, Realistic growth of 5% |
| >50 kW | 5% | YoY Growth Rate 14%, Realistic growth of 5% |
| LT X - Public services - Other | | |
| 0-20 KW | -1% | 3 Year CAGR |
| >20-50 kW | 5% | 3 Year CAGR 16%, Realistic growth of 5% |
| >50 kW | 5% | 3 Year CAGR 20%, Realistic growth of 5% |

6.3.18. MSEDCL has submitted that it has sufficient power availability for meeting the requirements of present and future period also.

6.3.19. For projection of number of consumers for the period FY 2018-19 to FY 2019-20, MSEDCL has considered FY 2017-18 as the base year. MSEDCL has projected the number of consumers (excluding 2 Franchisees) for various categories as shown in the following tables:

**Table 6-12: No. of Consumers Projections (HT category)**

| Consumer Category | FY 2018-19 (Projected) | FY 2019-20 (Projected) |
|---|---|---|
| **HT Category** | | |
| HT-IND 11 AND 22 KV | 12,178 | 12,535 |
| HT-IND 33 KV | 1,227 | 1,281 |
| HT-IND EHV | 253 | 275 |
| HT-SEASONAL | 452 | 452 |
| **Total : HT-I Industries** | **14,110** | **14,543** |
| **HT-II Commercial** | | |
| HT-COMM 11 AND 22 KV | 2,972 | 3,008 |
| HT-COMM 33 KV | 40 | 40 |
| HT-COMM EHV | 12 | 12 |
| **Total : HT-II Commercial** | **3,024** | **3,060** |
| **HT III Railways** | **76** | **76** |
| **HT IV-PWW** | **959** | **968** |
| **HT V Agricultural** | **1,038** | **1,034** |
| **HT VI Bulk Supply (Housing Complex)** | **375** | **394** |
| **HT Temporary** | **11** | **11** |
| **HT-IX Public services** | **1,284** | **1,305** |
| **MSPGCL AUX SUPPLY** | **30** | **32** |
| **HT AG Others (Poultry)** | **389** | **390** |
| **Total HT Consumers** | **21,296** | **21,813** |

**Table 6-13: No. of Consumers Projections (LT category)**

| Consumer Category | FY 2018-19 (Projected) | FY 2019-20 (Projected) |
|---|---|---|
| **LT Category** | | |
| LT-I (A): LT- BPL | 1,76,751 | 1,76,751 |
| **LT-I (B) : LT-Residential( Other than BPL)** | 1,86,29,085 | 1,93,49,159 |
| **LT-II : LT- Non Residential** | | |
| 0-20 KW | 17,72,586 | 18,47,312 |
| >20-<=50 KW | 23,573 | 25,577 |
| >50 KW | 5,495 | 6,088 |
| **LT-II : LT- Non Residential** | **18,01,654** | **18,78,977** |
| LT-III : LT-Public Water Works | 52,177 | 53,278 |
| **LT-IV: LT-Agriculture** | **43,12,412** | **44,59,033** |
| LT-AG-Unmetered (Pumpsets) | 14,73,264 | 14,42,765 |

| Consumer Category | FY 2018-19 (Projected) | FY 2019-20 (Projected) |
|---|---|---|
| LT-AG Metered (Pumpsets) | 28,12,970 | 29,88,308 |
| LT-AG Metered (Others) | 26,178 | 27,960 |
| **LT V(A) : LT Industry- Power Looms** | **33,913** | **34,069** |
| 0-20 KW (Upto & including 27 HP) | 28,858 | 28,761 |
| Above 20 KW (above 27 HP) | 5,055 | 5,308 |
| **LT V(B) : LT Industry- General** | **2,91,046** | **2,92,361** |
| 0-20 KW (Upto & including 27 HP) | 2,33,825 | 2,33,825 |
| Above 20 KW (above 27 HP) | 57,221 | 58,536 |
| **Street Light (LT-VI)** | **92,829** | **94,380** |
| **Temporary Connection (LT-VII)** | **3,662** | **3,847** |
| **LT-VIII : LT-Advertisements & Hordings** | **2,387** | **2,459** |
| **LT-IX : LT-Crematorium and Burial Grounds** | **198** | **208** |
| **LT X - Public services - Govt** | **20,359** | **21,379** |
| 0-20 KW | 19,891 | 20,886 |
| >20-50 kW | 323 | 340 |
| >50 kW | 145 | 153 |
| **LT X - Public services - Other** | **70,885** | **70,618** |
| 0-20 KW | 67,664 | 67,235 |
| >20-50 kW | 2,225 | 2,337 |
| >50 kW | 996 | 1,046 |
| **Total LT Consumers** | **2,54,87,358** | **2,64,36,519** |
| **Total MSEDCL excl. DF Consumers** | **2,55,08,654** | **2,64,58,332** |

6.3.20. Similar to projections of sales and no. of consumers, MSEDCL has also adopted the historical trend method for projecting category wise connected load or Contract demand for MSEDCL. The Break-up of category wise connected load or contract demand and the 3-year CAGR growth rates for the period FY 2017-18 over FY 2014-15 are as follows:

**Table 6-14: Historical Growth and CAGR Actual Billed Demand/ Connected Load**

| Category | FY 14-15 | FY 15-16 | FY 16-17 | FY 17-18 | 3 Year CAGR | Y-oY Growth |
|---|---|---|---|---|---|---|
| **HT-I Industries** | | | | | | |
| HT-IND 11 AND 22 KV | 33,92,050 | 33,54,605 | 34,68,368 | 36,66,127 | 3% | 6% |
| HT-IND 33 KV | 15,71,390 | 14,89,979 | 14,75,097 | 16,84,283 | 2% | 14% |
| HT-IND EHV | 15,92,494 | 15,36,834 | 16,37,261 | 18,36,339 | 5% | 12% |
| HT-SEASONAL | 77,740 | 56,960 | 54,040 | 58,209 | -9% | 8% |
| **Total : HT-I Industries** | **66,33,674** | **64,38,377** | **66,34,766** | **72,44,958** | **3%** | **9%** |
| **HT-II Commercial** | | | | | | |
| HT-COMM 11 AND 22 KV | 6,53,316 | 6,75,869 | 6,71,654 | 6,65,849 | 1% | -1% |
| HT-COMM 33 KV | 47,821 | 38,678 | 40,202 | 31,085 | -13% | -23% |
| HT-COMM EHV | 1,37,253 | 88,046 | 29,509 | 29,831 | -40% | 1% |
| **Total : HT-II Commercial** | **8,38,391** | **8,02,593** | **7,41,365** | **7,26,765** | **-5%** | **-2%** |
| **HT III Railways** | **-** | **-** | **11,977** | **37,127** | | 210% |
| **HT IV-PWW** | **2,60,632** | **2,88,795** | **2,95,857** | **3,07,728** | 6% | 4% |
| **HT V Agricultural** | **3,95,676** | **4,03,374** | **4,15,035** | **4,32,480** | 3% | 4% |
| **HT VI Bulk Supply (Housing Complex)** | **51,613** | **52,727** | **52,629** | **52,607** | 1% | 0% |
| **HT Temporary** | **-** | **-** | **1,075** | **2,788** | | 159% |
| **HT-IX Public services** | **2,52,613** | **2,73,434** | **2,83,306** | **2,93,129** | 5% | 3% |
| **MSPGCL AUX SUPPLY** | **47,064** | **72,650** | **1,04,183** | **1,10,969** | 33% | 7% |
| **HT AG Others (Poultry)** | **44,222** | **51,348** | **59,674** | **67,987** | 15% | 14% |
| | | | | | | |
| **Total -HT** | **85,23,885** | **83,83,298** | **85,99,866** | **92,76,538** | **3%** | **8%** |

**Table 6-15: Historical Growth and CAGR connected load/Contract Demand (LT Category)**

| Category | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 3 Year CAGR | Y-oY Growth |
|---|---|---|---|---|---|---|
| **LT Category** | | | | | | |
| LT I -BPL (kW) | 35,277 | 26,868 | 21,242 | 18,545 | -16% | -13% |
| LT I Domestic (kW) | 1,58,34,413 | 1,69,21,592 | 1,78,69,931 | 1,88,86,137 | 4% | 6% |
| LT II Non Domestic (kW) | 29,97,219 | 31,76,715 | 34,56,384 | 38,15,323 | 5% | 10% |
| LT III PWW (kW) | 1,44,742 | 1,53,329 | 1,64,046 | 1,66,398 | 4% | 1% |
| LT IV Agriculture (HP) | 1,94,21,593 | 2,00,78,979 | 2,06,29,531 | 2,11,83,255 | 2% | 3% |
| LT IV -Unmetered (HP) | 83,94,300 | 83,42,017 | 78,32,143 | 75,39,616 | -2% | -4% |

| Category | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 3 Year CAGR | Y-oY Growth |
|---|---|---|---|---|---|---|
| LT IV Metered incl Poultry (HP) | 1,10,27,294 | 1,17,36,962 | 1,27,97,388 | 1,36,43,638 | 5% | 7% |
| LT V Powerloom (HP) | 4,52,132 | 4,71,827 | 4,86,357 | 4,99,454 | 2% | 3% |
| LT V Industrial General (HP) | 39,34,850 | 40,31,460 | 40,72,886 | 40,04,275 | 1% | -2% |
| LT VI Streetlight (kW) | 3,59,962 | 3,64,797 | 3,73,666 | 3,77,339 | 1% | 1% |
| LT VII- Temporary Connection (kW) | 14,249 | 15,018 | 15,729 | 18,181 | 3% | 16% |
| LT VIII Advertisement & Hoardings (kW) | 5,032 | 5,386 | 5,914 | 6,043 | 6% | 2% |
| LT IX – Crematoriums & Burial Grounds (kW) | 838 | 1,223 | 1,444 | 1,516 | 20% | 5% |
| LT X - Public services (kW) | 1,40,258 | 1,78,365 | 2,11,958 | 2,46,491 | 15% | 16% |
| **LT Total** | **4,33,40,566** | **4,54,25,558** | **4,73,09,089** | **4,92,22,957** | **3%** | **4%** |
| **Total** | **5,18,64,451** | **5,38,08,856** | **5,59,08,955** | **5,84,99,495** | **3%** | **5%** |

6.3.21. Following tables provide the CAGRs considered for projecting connected load or contract demand for HT and LT categories for the period FY 2018-19 to FY 2019-20:

**Table 6-16: CAGR Considered for Contract Demand Projections (HT Category)**

| Consumer Category | CAGR Considered |
|---|---|
| HT-IND 11 AND 22 KV | 3% |
| HT-IND 33 KV | 2% |
| HT-IND EHV | 5% |
| HT-COMM 11 AND 22 KV | 1% |
| HT-COMM 33 KV | -23% |
| HT-COMM EHV | 0% |
| HT-III RAILWAYS/Metro/Mono | 0% |
| HT-PWW 11 AND 22 KV | 4% |
| HT-PWW 33 KV | 10% |
| HT-PWW EHV | 5% |
| HT-AGRICULTURE 11 AND 22 KV | -1% |
| HT-AGRICULTURE 33 KV | 6% |

| Consumer Category | CAGR Considered |
|---|---|
| HT-AGRICULTURE EHV | 5% |
| HT-PUBLIC SER.-GOVT 11 AND 22 KV | 0% |
| HT-PUBLIC SER.-GOVT 33 KV | 0% |
| HT-PUBLIC SER.-GOVT EHV | 0% |
| HT-PUBLIC SER.-OTHER 11 AND 22 KV | 0% |
| HT-PUBLIC SER.-OTHER 33 KV | 5% |
| HT-PUBLIC SER.-OTHER EHV | 8% |
| HT-AG OTHERS 11 AND 22 KV | 5% |
| HT-AG OTHERS 33 KV | 3% |
| HT-AG OTHERS EHV | 0% |

**Table 6-17: CAGR Considered for Connected Load/Contract Demand Projections (LT Category)**

| Consumer Category | CAGR Considered |
|---|---|
| LT-I (A): LT- BPL | 0% |
| LT-I (B) : LT-Residential( Other than BPL) | 6% |
| LT-II : LT- Non Residential | |
| 0-20 KW | 8% |
| >20-<=50 KW | 8% |
| >50 KW | 10% |
| LT-III : LT-Public Water Works | |
| 0-20 KW | 5% |
| 20-<=40 KW | 5% |
| > 40 KW | 4% |
| LT-IV: LT-Agriculture | |
| LT-AG-Unmetered (Pumpsets) | -4% |
| LT-AG Metered (Pumpsets) | 8% |
| LT-AG Metered (Others) | 0% |
| LT V(A) : LT Industry- Power Looms | |
| 0-20 KW (Upto & including 27 HP) | 1% |
| Above 20 KW (above 27 HP) | 10% |
| LT V(B) : LT Industry- General | |
| 0-20 KW (Upto & including 27 HP) | -1% |
| Above 20 KW (above 27 HP) | 3% |
| LT X - Public services - Govt | |
| 0-20 KW | 5% |
| >20-50 kW | 5% |

| Consumer Category | CAGR Considered |
|---|---|
| >50 kW | 5% |
| LT X - Public services - Other | |
| 0-20 KW | 10% |
| >20-50 kW | 10% |
| >50 kW | 10% |

6.3.22. Based on the connected load or contract demand or provisional billing demand for FY 2017-18 and the CAGRs as shown in above tables, MSEDCL has projected the connected load or contract demand for various categories (excluding 2 Franchisees) for the period as shown in the following table:

**Table 6-18: Connected load/contract demand Projections (HT category)**

| Consumer Category | FY 18-19 (Projected) | FY 19-20 (Projected) |
|---|---|---|
| **HT Category** | | |
| HT-IND 11 AND 22 KV | 37,62,322 | 38,61,040 |
| HT-IND 33 KV | 17,23,688 | 17,64,015 |
| HT-IND EHV | 19,25,653 | 20,19,310 |
| HT-SEASONAL | 58,209 | 58,209 |
| **Total : HT-I Industries** | **74,69,871** | **77,02,574** |
| **HT-II Commercial** | | |
| HT-COMM 11 AND 22 KV | 6,70,079 | 6,74,337 |
| HT-COMM 33 KV | 31,085 | 31,085 |
| HT-COMM EHV | 29,831 | 29,831 |
| **Total : HT-II Commercial** | **7,30,996** | **7,35,253** |
| **HT III Railways** | **37,127** | **37,127** |
| **HT IV-PWW** | **3,23,815** | **3,40,954** |
| **HT V Agricultural** | **4,46,309** | **4,60,986** |
| **HT VI Bulk Supply (Housing Complex)** | **53,247** | **53,896** |
| **HT Temporary** | **2,788** | **2,788** |
| **HT-IX Public services** | **2,95,128** | **2,97,253** |
| **MSPGCL AUX SUPPLY** | **1,16,483** | **1,22,272** |
| **HT AG Others (Poultry)** | **71,253** | **74,677** |
| **Total HT** | **95,47,017** | **98,27,781** |

**Table 6-19: Connected load/contract demand Projections (LT category)**

| Consumer Category | FY 18-19 (Projected) | FY 19-20 (Projected) |
|---|---|---|
| **LT Category** | | |

| Consumer Category | FY 18-19 (Projected) | FY 19-20 (Projected) |
|---|---|---|
| LT-I (A): LT- BPL (kW) | 18,545 | 18,545 |
| **LT-I (B) : LT-Residential( Other than BPL) (kW)** | 2,00,28,889 | 2,12,40,787 |
| **LT-II : LT- Non Residential (HP)** | | |
| 0-20 KW | 35,64,506 | 38,59,753 |
| >20-<=50 KW | 3,57,252 | 3,85,026 |
| >50 KW | 2,11,198 | 2,32,318 |
| **LT-II : LT- Non Residential** | **41,32,956** | **44,77,097** |
| LT-III : LT-Public Water Works (kW) | 1,74,316 | 1,82,611 |
| **LT-IV: LT-Agriculture (HP)** | **2,20,35,015** | **2,29,79,990** |
| LT-AG-Unmetered (Pumpsets) | 72,74,517 | 70,18,739 |
| LT-AG Metered (Pumpsets) | 1,46,54,045 | 1,58,54,798 |
| LT-AG Metered (Others) | 1,06,453 | 1,06,453 |
| **LT V(A) : LT Industry- Power Looms** | **5,16,652** | **5,35,401** |
| 0-20 KW (Upto & including 27 HP) (HP) | 3,47,135 | 3,48,932 |
| Above 20 KW (above 27 HP) (kVA) | 1,69,517 | 1,86,469 |
| **LT V(B) : LT Industry- General (HP)** | **40,31,059** | **40,59,754** |
| 0-20 KW (Upto & including 27 HP) (HP) | 25,53,335 | 25,30,864 |
| Above 20 KW (above 27 HP) (kVA) | 14,77,724 | 15,28,890 |
| **Street Light (LT-VI) (kW)** | **3,95,449** | **4,15,371** |
| **Temporary Connection (LT-VII) (kW)** | **19,722** | **21,395** |
| **LT-VIII : LT-Advertisements & Hordings (kW)** | **6,423** | **6,827** |
| **LT-IX : LT-Crematorium and Burial Grounds (kW)** | **1,668** | **1,835** |
| **LT X - Public services - Govt** | **36,501** | **38,326** |
| 0-20 KW (kW) | 27,734 | 29,120 |
| >20-50 kW (kVA) | 4,345 | 4,563 |
| >50 kW (kVA) | 4,422 | 4,643 |
| **LT X - Public services - Other** | **2,32,906** | **2,56,202** |
| 0-20 KW (kW) | 1,63,612 | 1,79,978 |
| >20-50 kW (kVA) | 33,874 | 37,261 |
| >50 kW (kVA) | 35,421 | 38,963 |
| **Total LT** | **5,16,30,102** | **5,42,34,142** |
| **Total MSEDCL excl. DF** | **6,11,77,119** | **6,40,61,923** |

***Commission's Analysis and Rulings***

6.3.23. Since, at the time of analysis of the MTR Petition, provisional Energy sales figures for the entire FY 2017-18 were available, for approval of sales for FY 2018-19 and FY 2019-20. The Commission has taken the category-wise sales approved for FY 2017-18 as the base, which is the same as considered by MSEDCL in its Petition. To that, the Commission has applied, in most cases, the 3 year CAGR for projection of sales for FY 2018-19 and FY 2019-20. Where it considered aberrations in the reported year-on-year growth rates of certain consumer categories, the Commission has corrected the growth factors, or considered MSEDCL's projection of sales in absolute terms for such categories on merits, to arrive at more realistic projections. The growth rates considered by the Commission are discussed in the following paragraphs:

HT-I Industry

6.3.24. The Commission has applied the same growth rate for the 3rd Control Period, as proposed by MSEDCL. MSEDCL has proposed CAGR for sales in each voltage level. The weighted average growth rate for all the voltage level is 2%.

HT II Commercial

6.3.25. The 3 year CAGR for HT commercial category works out to be negative. Hence, the expects no growth in this category at all as against negative -2% growth rate as proposed by MSEDCL for 11 and 22 kV voltage levels.

HT-III Railways

6.3.26. The 3 year CAGR for HT Railways category works out to be negative. Since the Railways have opted for deemed distribution licensee, the Commission has not considered any growth in sales in this category, in line with MSEDCL's projection.

HT IV Public Water Works

6.3.27. Since there is significant variation in 3 year sales growth and Y-o-Y sales growth at different voltage levels, the Commission has applied 4% CAGR for the entire sales as considered in the previous MYT order.

HT V Agriculture

6.3.28. The 3-Year CAGR for HT-V Agriculture category works out to 2%, which the Commission has considered for projecting the sales.

HT VI Bulk supply and Group Housing Society

6.3.29. The 3-year CAGR for the HT-VI Bulk supply and Group Housing Category is negative. The Commission expects no growth in this category, in line with MSEDCL's projection.

HT VIII Temporary

6.3.30. The 3-year CAGR works out to be negative in case of Temporary –Others category. In case of Temporary-Religious category, there is significant variation in 3 –year CAGR and Y-o-Y growth. Hence the Commission has considered zero growth, in line with MSEDCL's submission.

HT IX Public Service

6.3.31. In case of HT- IX Public Service Government, being a new category, the Commission has considered 10% growth rate in line with MSEDCL's submission. The Commission has considered 1-year CAGR growth rate, the weighted average growth across all voltage levels of which is arrived as 0.06%, in line with MSEDCL's submission.

HT X MSPGCL AUX Supply

6.3.32. The Commission expects no growth in case of this category, hence 0% growth rate considered in line with MSEDCL's submission.

HT AG Others

6.3.33. The Commission has considered 3 year CAGR, the weighted average across all voltage level works out to be 16%, as against 10% considered by MSEDCL.

LT-I Residential

6.3.34. The Commission has considered 3 –year CAGR, the weighted average of which works out to 8%, in line with MSEDCL's submission.

LT-II Non-Residential

6.3.35. The 3 Year CAGR is 10%, which has been applied for projecting the sales, in line with MSEDCL's submission.

LT-III Public Water Works

6.3.36. The 3-year CAGR is 5%, which the Commission has considered for projecting the sales.

LT IV Agriculture

6.3.37. The Commission has elaborated in chapter 3, the rationale and the methodology for assessment of the AG index based AG sales up to 2019-20. The Commission has considered the same conversion of unmetered to metered Agricultural connections as envisaged by MSEDCL for projecting the Agricultural sales and revenue for FY 2018-19 and FY 2019-20.

6.3.38. The Commission in the previous MYT order ruled as follows:

> *"In addition, the Commission directs MSEDCL to install meters on all un-metered LT Agriculture pumpsets with Connected Load above 7.5 HP within a year (from out of the target of conversion of un-metered to metered connections). The number of such consumers being relatively small (around 74,000), it should not be difficult to procure appropriate meters of good quality in a short period. Failure to implement this direction by the stipulated period may compel the Commission not to consider the input energy required for such consumers. The Commission expects MSEDCL to demonstrate its seriousness by prioritising this in the process of metering of all unmetered Agriculture consumers. The Commission notes that MSEDCL has not submitted any information as to the steps it has taken for conversion such as purchase plan, supply of meters by vendors, etc. even after the issue of the directions in the previous MYT Order"*

6.3.39. The MSEDCL has submitted the status of metering and the same has been captured in Compliance to Directives chapter.

6.3.40. In the light of earlier discussion, the Commission has applied the re-estimated AG Index (kWh/HP/Annum) computed considering the circle-wise agricultural feeder data provided by MSEDCL for FY 2015-16 to derive the sales of FY 2018-19 and FY 2019-20. The detail methodology for assessment of both metered as well as unmetered Agricultural sales as per the methodology elaborated in the Chapter 3.

LT-V Industry

6.3.41. Since there is significant variation in 3 year CAGR and Y-o-Y growth, the Commission has considered the growth rate of 7% in case of LT-Industry-Power looms and 5% in case of LT-Industry general, as considered by Commission in previous MYT Order.

LT VI Street Light

6.3.42. The Commission has considered 3 year CAGR growth rate of 7%, in line with the submission by MSEDCL.

LT Temporary

6.3.43. The 3-year CAGR works out to be negative in case of Temporary –Others category. In case of Temporary-Religious category, there is significant variation in 3 –year CAGR and Y-o-Y growth. Hence the Commission has considered zero growth, in line with MSEDCL's submission.

LT Advertisement and Hoardings; LT Crematorium and Burial Grounds

6.3.44. The Commission has considered 3 year CAGR growth rate of 11% for Advertisement and Hoardings and 10% for Crematorium and Burial Grounds, in line with the submission by MSEDCL

LT Public Service

6.3.45. In case of LT- IX Public Service Government, being a new category, the Commission has considered 10% growth rate in line with MSEDCL's submission. In case of Public service others category, the Commission has considered 10% growth across all voltage, in line with MSEDCL's submission.

6.3.46. The Commission has applied the category-wise growth rates as above for projection of sales in the two operational DF areas of Bhiwandi and Nagpur as well.

6.3.47. In the previous MYT Order, the Commission had merged the sale of Bhiwandi DF area from FY 2017-18 onwards with the MSEDCL sales since extension of Franchisee agreement was due and pending for extension as envisaged in the DF agreement. On query regarding the finalisation of extension of agreement, MSEDCL has clarified that it had renewed and extended the DF agreement for Bhiwandi Circle on 2nd December for 10 years i.e. upto 25th January, 2027 in pursuance of the Article 3.2 of DF agreement.

6.3.48. The following table sets out the HT and LT sales projections approved by the Commission (including and excluding DF area sales) for FY 2018-19 and FY 2019-20.

**Table 6-20: Sales for FY 2018-19 and FY 2019-20 as approved by Commission**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | Approved in this Order | MYT Order | MSEDCL Petition | Approved in this Order |
| **HT Sales** | | | | | | |

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | Approved in this Order | MYT Order | MSEDCL Petition | Approved in this Order |
| HT Sales - MSEDCL | 33,092 | 34,481 | 34,588 | 34,515 | 35,080 | 35,293 |
| **LT Sales** | | | | | | |
| LT Sales - Excluding AG Sales | 40,692 | 34,933 | 35,098 | 43,667 | 36,691 | 37,008 |
| LT Sales - AG Sales | 26,257 | 30,778 | 29,353 | 27,576 | 32,002 | 31,139 |
| **MSEDCL Sales(HT and LT)** | **1,00,040** | **100193** | **99039** | **105757** | **1,03,774** | **1,03,440** |
| Energy Sales in DF Areas | 1,557 | 4618 | 4675 | 1671 | 4,823 | 4,929 |
| **Total Energy Sales (including DF Areas)** | **1,01,597** | **1,04,811** | **1,03,714** | **1,07,429** | **1,08,597** | **1,08,369** |

## 6.4. Distribution Loss for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.4.1. MSEDCL submitted that it has been achieving a significant reduction in distribution losses and these efforts shall be continued and will be enhanced. However, the loss reduction is a slow process and as the loss levels come down further reduction in loss becomes difficult. MSEDCL has considered the distribution losses (excl. EHV) as approved by the Commission in its MYT Order for the FY 18-19 to FY 19-20 is shown in following table:

**Table 6-21: Distribution Loss for FY 2018-19 and FY 2019-20 as submitted by MSEDCL**

| Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | MYT Order | Projected | MYT Order | Projected |
| Distribution Losses | 14.76% | 14.76% | 13.26% | 13.26% |

6.4.2. MSEDCL requested that the distribution losses approved by the Commission for FY 18-19 and FY 19-20 need to be reconsidered in view of the submission made in above Paragraph.

***Commission's Analysis and Ruling***

6.4.3. The Commission had stipulated the trajectory for reduction of Distribution Loss in its MYT Order for 3rd control period in Case No. 48 of 2016. Based on the revised formats and methodology for computation of Distribution Loss by considering the sales at the distribution periphery excluding EHV sales, the Distribution Loss level stipulated for

FY 2018-19 and FY 2019-20 was 14.76% and 13.26% respectively. That formed the basis for estimated approval of the Energy Balance in the previous MYT Order for these years. Accordingly, the Commission approves the same distribution losses as approved in the last MYT order.

## 6.5. Energy Balance for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.5.1. MSEDCL stated that the quantum of sales in MUs shown in the above sections of sales represent the sales of MSEDCL excluding the sales in the area served by Distribution Franchisees. As per the methodology adopted by Commission for calculating energy balance of MSEDCL as a whole, the sale to the consumers within the Distribution Franchisee area has also been considered. Therefore, total energy sale for FY 2018-19 to FY 2019-20 computed by MSEDCL is shown as below:

**Table 6-22: Total Energy Sales projected for FY 2018-19 and FY 2019-20 as submitted by MSEDCL (MU)**

| Particulars | FY 2018-19 (Projected) | FY 2019-20 (Projected) |
|---|---|---|
| Energy Sales by MSEDCL for FY 2018-19 and FY 2019-20 | 1,00,193 | 1,03,774 |
| Add: Category wise sales in DF area | 4,618 | 4,823 |
| Add: OA Sales (Conventional) | 4,547 | 4,774 |
| Add: Renewable OA | 713 | 749 |
| **Total Energy sales MSEDCL** | **1,10,070** | **1,14,120** |

6.5.2. MSEDCL has considered an average inter-state loss for the whole year for power sourced from outside the State of Maharashtra. The said loss is calculated in Energy Balance only.

6.5.3. MSEDCL also submitted that data of metered energy is available at 3 points: at bus-bar of the generating station, at T <> D interface i.e., at Distribution Periphery and sales at consumer end. It is further to state that to calculate Distribution Loss, it considers metered energy at Distribution periphery and sales at consumer end.

6.5.4. MSEDCL further submitted that since MSEDCL has applied principle of Merit Order dispatch for power procurement, it has not envisaged any trading of surplus power during the period FY 2018-19 to FY 2019-20.

6.5.5. Considering the above energy available for sale for the period FY 18-19 to FY 19-20, the energy balance for MSEDCL is calculated.

6.5.6. MSEDCL further submitted that as per the justifications provided in the above relevant sections for FY 2015-16, FY 2016-17 and FY 2017-18 respectively, MSEDCL has considered the average of transmission losses for last 52 weeks provided by WRLDC as on March 18, 2018 as the Inter State Transmission Loss.

**Table 6-23: Energy Balance for FY 2018-19 and FY 2019-20 as submitted by MSEDCL**

| Particulars | Units | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|---|
| | | MYT Order | Projected | MYT Order | Projected |
| LT sales | MUs | 68,314 | 69,432 | 72,713 | 72,590 |
| HT sales | MUs | 26,674 | 27,240 | 27,823 | 27,410 |
| Renewable Open Access | MUs | 420 | 713 | 420 | 749 |
| Sales to Open Access Consumers (Conventional) | MUs | 6,668 | 4,547 | 6,935 | 4,774 |
| **Total Sales to Consumers** | **MUs** | **1,02,076** | **1,01,932** | **1,07,890** | **1,05,523** |
| Distribution Loss | % | 14.76% | 14.76% | 13.26% | 13.26% |
| Distribution Loss | MUs | 16,946 | 17,650 | 15,876 | 16,131 |
| **Total Energy Available for Sale at 33kV** | **MUs** | **1,19,022** | **1,19,582** | **1,23,766** | **1,21,654** |
| Energy injected and drawn at 33kV | MUs | 458 | 488 | 458 | 488 |
| **Net Energy Available for Sale at 33kV** | **MUs** | **1,18,564** | **1,19,094** | **1,23,308** | **1,21,166** |
| EHV Sales | MUs | 6,614 | 8,138 | 6,899 | 8,597 |
| **Net Energy requirement at T<>D Periphery** | **MUs** | **1,25,178** | **1,27,232** | **1,30,207** | **1,29,763** |
| Intra-State Transmission Loss | % | 3.92% | 3.46% | 3.92% | 3.33% |
| Intra-State Transmission Loss | MUs | 5,107 | 4,559 | 5,312 | 4,464 |
| **Energy Requirement at G<>T Periphery** | **MUs** | **1,30,285** | **1,31,791** | **1,35,519** | **1,34,227** |
| Input for OA consumption | MUs | (7,383) | (4,837) | (7,679) | (5,079) |
| Net Energy Requirement at G<>T Periphery | MUs | 1,22,902 | 1,26,954 | 1,27,840 | 1,29,148 |
| Power Purchase Quantum from Intra-State sources | MUs | 90,932 | 85,244 | 94,627 | 86,074 |
| Power Purchase Quantum from Inter-State sources at MS Periphery | MUs | 31,970 | 41,710 | 33,213 | 43,074 |
| Inter-State Losses | % | 3.66% | 3.47% | 3.66% | 3.47% |
| Power Purchase Quantum from Inter-State sources | MUs | 33,185 | 43,208 | 34,475 | 44,621 |
| **Total Power Purchase Quantum payable** | **MUs** | **1,24,116** | **1,28,452** | **1,29,101** | **1,30,695** |

6.5.7. MSEDCL requested the Commission to approve the Energy Balance for the period FY 2018-19 to FY 2019-20 as submitted by MSEDCL in above table.

***Commission's Analysis and Ruling***

6.5.8. The Commission has followed a bottom-up approach while approving the Energy Balance for FY 2018-19 and FY 2019-20. The quantum of sales to consumers is projected first. This energy requirement provides the basis for further grossing up for Distribution Loss, Intra-State loss and Inter-State loss to arrive at the actual energy input requirement to be procured.

6.5.9. Considering the total sales as approved earlier in this Chapter, the Commission has approved the pro-rata voltage-wise sales for FY 2018-19 and FY 2019-20 for calculating the Energy Balance. The voltage-wise sale approved for the Energy Balance is shown in the following Table:

**Table 6-24: Voltage-wise sales approved considered in Energy Balance for FY 2018-19 and FY 2019-20 (MU)**

| Voltage Level | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MTR Petition | Approved in this Order | MYT Order | MTR Petition | Approved in this Order |
| Sales at 400/440 kV | | 198 | 198 | | 210 | 208 |
| Sales at 220 kV | | 2,982 | 2,973 | | 3,150 | 3,132 |
| Sales at 132 kV | | 3,253 | 3,244 | | 3,437 | 3,418 |
| Sales at 110 kV | 2,132 | 44 | 44 | 2,225 | 46 | 46 |
| Sales at 100 kV | | 1,517 | 1,513 | | 1,602 | 1,593 |
| Sales at 66 kV | 1,362 | 144 | 144 | 1,421 | 152 | 151 |
| Sales at 33 kV | 8,641 | 9,422 | 9,403 | 9,013 | 9,535 | 9,495 |
| Sales at 22/25 kV | | 10,407 | 10,489 | | 10,441 | 10,607 |
| Sales at 11 kV | 18,034 | 7,411 | 7,470 | 18,809 | 7,435 | 7,553 |
| **Total Sales at HT level** | **30,169** | **35,378** | **35,478** | **31,468** | **36,007** | **36,204** |
| **Sales at LT Level** | **68,314** | **69,432** | **68,236** | **72,713** | **72,590** | **72,166** |
| **Total** | **98,483** | **1,04,811** | **1,03,714** | **1,04,181** | **1,08,597** | **1,08,369** |

6.5.10. The Commission has considered the approved sales comprising sales in the DF areas for calculation of the Energy Balance of FY 2018-19 and FY 2019-20. The Commission has considered a Distribution Loss reduction trajectory as approved in the last MYT order in Case No. 48 of 2016. The commission has considered the InSTS loss of 3.30% for FY 2018-19 and FY 2019-20 as approved under the Order of revision of InSTS tariff Order for FY 2018-19 and FY 2019-20 in Case No. 265 of 2018.

6.5.11. MSEDCL submitted that the Energy at Distribution Periphery injected and drawn at 33 kV is renewable energy and is already a part of RE power considered in Form 2 (Power purchase expense). Hence, for the purpose of Energy Balance, the commission has deducted the RE power, in arriving at Total power quantum handled at G<>T periphery (*Sr. No.16 of Energy Balance table shown below*), as the RE component is shown separately (*Sr. No. 24 of Energy Balance table shown below*). Accordingly, the Energy Balance for the FY 2018-19 and FY 2019-20 is as below:

**Table 6-25: Energy Balance for FY 2018-19 approved by the Commission**

| Sr. No. | Particulars | Calculation | UoM | FY 2018-19 | | |
|---|---|---|---|---|---|---|
| | | | | **MYT Order** | **MTR Petition** | **Approved in this Order** |
| 1 | Agriculture Sales (Including D.F) | a | MU | 68,314 | 69,432 | 29,362 |
| 2 | LT Sales excluding Agriculture Sales (Including D.F) | b | MU | | | 38,873 |
| 3 | HT Sales excluding EHV level sales (Including D.F) | c | MU | 26,674 | 27,240 | 27,363 |
| **4** | **Total Sales including D.F (Excluding EHV Sales)** | **d=a+b+c** | **MU** | **94,988** | **96,673** | **95,598** |
| 5 | OA Sales (Renewables) | e | MU | 420 | 713 | 713 |
| 6 | OA Sales (Conventional) | f | MU | 6,668 | 4,547 | 4,547 |
| **7** | **Retail Energy Sale to Consumers (Excluding EHV Sales)** | **A=d+e+f** | **MU** | **1,02,076** | **1,01,932** | **1,00,858** |
| | | | | | | |
| **8** | **Total Power Purchase** | **B=g+h** | **MU** | **1,24,575** | **1,28,940** | **1,27,199** |
| 9 | *Power Purchase Quantum from Intra-State sources* | g | MU | 91,390 | 85,732 | 87,596 |
| 10 | *Power Purchase Quantum from Inter-State sources* | h | MU | 33,185 | 43,208 | 39,604 |
| **11** | **Inter-State Losses** | **i** | **%** | **3.66%** | **3.47%** | **3.30%** |
| 12 | *Power Purchase Quantum from Inter-State sources at MS Periphery* | j=h*(1-i) | MU | 31,970 | 41,710 | 38,297 |
| **13** | **Power Quantum handled at Maharashtra Periphery** | **k=g+j** | **MU** | **1,23,360** | **1,27,442** | **1,25,892** |
| | | | | | | |
| 14 | Infirm Non-PPA Wind Power | l | MU | - | - | - |
| 15 | Input for OA Consumption | m=f/ (1-6%) | MU | 7,383 | 4,837 | 4,837 |
| **16** | **Total Power Purchase Quantum Handled** | **n=k+l+m-v** | **MU** | **1,30,285** | **1,31,791** | **1,30,241** |
| 17 | Surplus Power Traded | o | MU | - | - | - |
| **18** | **Energy Requirement at G<>T Periphery** | **p=n-o** | **MU** | **1,30,285** | **1,31,791** | **1,30,241** |
| | | | | | | |

| Sr. No. | Particulars | Calculation | UoM | FY 2018-19 | | |
|---|---|---|---|---|---|---|
| | | | | MYT Order | MTR Petition | Approved in this Order |
| **19** | **Intra-State Transmission Loss** | **q** | **%** | **3.92%** | **3.46%** | **3.30%** |
| **20** | Intra-State Transmission Loss | r=p*q | MU | 5,107 | 4,559 | 4,298 |
| 21 | Net Energy requirement at T<>D Periphery | s=p-r | MU | 1,25,178 | 1,27,232 | 1,25,943 |
| 22 | EHV Sales | t | MU | 6,614 | 8,138 | 8,116 |
| 23 | Net Energy Available for Sale at 33kV | u=s-t | MU | 1,18,564 | 1,19,094 | 1,17,827 |
| 24 | Energy injected and drawn at 33kV | v | MU | 458 | 488 | 488 |
| **25** | **Total Energy Available for Sale at 33kV** | **C=u+v** | **MU** | **1,19,022** | **1,19,582** | **1,18,315** |
| | | | | | | |
| 26 | **Distribution Loss (Excl. EHV Sales)** | D=C-A | MU | **16,946** | **17,650** | **17,458** |
| 27 | **Distribution Loss (Excl. EHV Sales)** | **E=D/C** | **%** | **14.76%** | **14.76%** | **14.76%** |

**Table 6-26: Energy Balance for FY 2019-20 approved by the Commission**

| Sr. No. | Particulars | Calculation | UoM | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | | | | MYT Order | MTR Petition | Approved in this Order |
| 1 | Agriculture Sales (Including D.F) | a | MU | 72,713 | 72,590 | 31,149 |
| 2 | LT Sales excluding Agriculture Sales (Including D.F) | b | MU | | | 41,016 |
| 3 | HT Sales excluding EHV level sales (Including D.F) | c | MU | 27,823 | 27,410 | 27,654 |
| **4** | **Total Sales including D.F (Excluding EHV Sales)** | **d=a+b+c** | **MU** | **1,00,536** | **1,00,000** | **99,820** |
| 5 | OA Sales (Renewables) | e | MU | 420 | 749 | 749 |
| 6 | OA Sales (Conventional) | f | MU | 6,935 | 4,774 | 4,774 |
| **7** | **Retail Energy Sale to Consumers (Excluding EHV Sales)** | **A=d+e+f** | **MU** | **1,07,890** | **1,05,523** | **1,05,342** |
| | | | | | | |
| **8** | **Total Power Purchase** | **B=g+h** | **MU** | **1,29,560** | **1,31,183** | **1,30,634** |
| 9 | *Power Purchase Quantum from Intra-State sources* | g | MU | 95,085 | 86,562 | 89,295 |
| 10 | *Power Purchase Quantum from Inter-State sources* | h | MU | 34,475 | 44,621 | 41,339 |
| **11** | **Inter-State Losses** | **i** | **%** | **3.66%** | **3.47%** | **3.14%** |

| Sr. No. | Particulars | Calculation | UoM | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | | | | MYT Order | MTR Petition | Approved in this Order |
| 12 | *Power Purchase Quantum from Inter-State sources at MS Periphery* | j=h*(1-i) | MU | 33,213 | 43,074 | 40,041 |
| **13** | **Power Quantum handled at Maharashtra Periphery** | **k=g+j** | **MU** | **1,28,298** | **1,29,636** | **1,29,336** |
| | | | | | | |
| 14 | Infirm Non-PPA Wind Power | l | MU | - | - | - |
| 15 | Input for OA Consumption | m=f/(1-6%) | MU | 7,679 | 5,079 | 5,079 |
| **16** | **Total Power Purchase Quantum Handled** | **n=k+l+m-v** | **MU** | **1,35,520** | **1,34,227** | **1,33,926** |
| 17 | Surplus Power Traded | o | MU | - | - | - |
| **18** | **Energy Requirement at G<>T Periphery** | **p=n-o** | **MU** | **1,35,520** | **1,34,227** | **1,33,926** |
| | | | | | | |
| **19** | **Intra-State Transmission Loss** | **q** | **%** | **3.92%** | **3.33%** | **3.30%** |
| **20** | Intra-State Transmission Loss | r=p*q | MU | 5,312 | 4,464 | 4,420 |
| 21 | Net Energy requirement at T<>D Periphery | s=p-r | MU | 1,30,207 | 1,29,763 | 1,29,507 |
| 22 | EHV Sales | t | MU | 6,899 | 8,597 | 8,549 |
| 23 | Net Energy Available for Sale at 33kV | u=s-t | MU | 1,23,309 | 1,21,166 | 1,20,957 |
| 24 | Energy injected and drawn at 33kV | v | MU | 458 | 488 | 488 |
| **25** | **Total Energy Available for Sale at 33kV** | **C=u+v** | **MU** | **1,23,767** | **1,21,654** | **1,21,445** |
| | | | | | | |
| 26 | **Distribution Loss (Excl. EHV Sales)** | D=C-A | MU | **15,877** | **16,131** | **16,103** |
| 27 | **Distribution Loss (Excl. EHV Sales)** | **E=D/C** | **%** | **13.26%** | **13.26%** | **13.26%** |

## 6.6. Power Purchase Expenses for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.6.1. Assumptions for power purchase for FY 2018-19 to FY 2019-20

6.6.2. MSEDCL submitted that it has procured power from different sources on Merit Order Dispatch Principle for optimum utilization of the sources at least cost. For projection of availability, MSEDCL has considered the entire power available from all the tied-up sources during this period to meet the demand. Considering the capacity available and the demand projection, no power procurement from Traders or power exchange has been projected by MSEDCL for the period FY 18-19 to FY 19-20.

6.6.3. Further, MSEDCL submitted that a realistic approach has been adopted in projecting the power purchase availability based on the actual availability and considering upcoming projects in the FY 2018-19 to 2019-20.

6.6.4. For estimating the power purchase cost, merit order principles have been considered. As per the provisions of MYT Regulations 2015, MSEDCL has projected the monthly power requirement using the monthly sales projections and applying monthly MOD. While full fixed (capacity) charges have been considered for all the plants, the variable charges corresponding to the cheaper sources of power have been considered, whereas no variable charges have been considered in respect of energy not scheduled for power purchase (according to the merit order dispatch principles).

6.6.5. MSEDCL further submitted that for power procurement from competitive bidding route, the tariff has been considered based on the rate quoted as per the terms of the PPA with the escalation based on the CERC rates, wherever applicable.

A. Source wise Power Purchase Projection for FY 18-19 to FY 19-20

- Maharashtra State Generation Company Limited (MSPGCL)

6.6.6. MSEDCL has considered power generation, operational factors as well as Cost (Fixed as well as Variable charges) for existing thermal power stations as per the MTR filed by MSPGCL.

6.6.7. MSEDCL stated that Parli 4 & 5 stations are in reserve shutdown, hence no availability of generation has been considered for these plants and instead of Capacity Charges only Reserve Shutdown Charges have been considered in line with that submitted by MSPGCL in its mid-term review petition.

6.6.8. Further, MSEDCL stated that the Commission issued an Order in Case No. 59 of 2017 or approval of Capital Cost and Tariff of Koradi Generating Units 8, 9 & 10, Chandrapur Units 8 & 9 and Parli Unit 8. The Commission in the said Order has ruled that *"MSPGCL shall raise the monthly bills as per the tariff approved in this Order from the month of January, 2018 onward. The Commission also directs MSPGCL to recover/adjust the difference in Annual Fixed Charges approved in this Order and the provisional Annual Fixed Charges billed by MSPGCL up to the month of December, 2017 in 3 monthly installments from January, 2018 onwards".*

6.6.9. MSEDCL further submits that the impact of increased costs related to the FY 2015-16 and 2016-17 is allowed to be recovered through the FAC of the respective month. Hence, the impact of increased cost due to revision in tariff of these stations is not considered in the final true up of FY 2015-16 & 2016-17 and provisional true up of FY 2017-18. MSEDCL has considered the energy charges and fixed charges for these stations as per the said Order for the period FY 2018-19 and FY 2019-20.

- Central Generating Stations (CGS)

i. NTPC

6.6.10. MSEDCL stated that in case of NTPC, MSEDCL has a firm share allocation for drawal of power as allocated by MoP. Variable Charges, energy charges and capacity charges for FY 2018-19 and FY 2019-20 have been considered same as per that levied by NTPC for FY 2017-18 as per the bills raised.

6.6.11. MSEDCL further submits that the following NTPC stations are expected to be commissioned during FY 18-19 to FY 19-20.

**Table 6-27: Expected commissioning dates of new NTPC stations as submitted by MSEDCL**

| Name of NTPC station | MSEDCL Share in MW | Anticipated COD |
|---|---|---|
| Solapur 2 | 308 | Jan-19 |
| Lara | 228 | Aug-18 |
| Gadarwara | 50 | Aug-18 |
| Khargone | 50 | Mar-19 |

NTPC Solapur 2: The variable rate of this Station is considered as Rs 2.72 p.u. The fixed charge considered as Rs.2.32 p.u. based on information received from NTPC.

NTPC Gadarwara: The variable rate of this Station is considered as Rs 1.32 p.u. and the fixed charge considered as Rs. 2.36 p.u. based on information received from NTPC.

NTPC Lara: The variable rate of this Station is considered as Rs 0.93 p.u. and the fixed charge considered as Rs. 2.34 p.u. based on information received from NTPC.

NTPC Khargone: The variable rate of this Station is considered as Rs 1.95 p.u. and the fixed charge considered as Rs.2.37 p.u. based on information received from NTPC.

ii. NPCIL

6.6.12. Plant at Kakrapar was shutdown during the FY 2017-18 and was expected to generate power from May 2018. However, generation from Kakrapar is still unavailable.

6.6.13. The overall cost of NPCIL has increased from Rs. 2.5 to 2.92 due to increase in tariff during 2017-18.

6.6.14. For NPCIL Stations, the Variable Charges are increased by 5% per annum over actual variable charges for FY 17-18.

- Sardar Sarovar Project (SSP) and Pench.

6.6.15. MSEDCL has Projected 1210 MUs and 1213 MUs power purchase from SSP and 136 MUs and 137 MUs from PENCH for FY 2018-19 and 2019-20 respectively. MSEDCL has considered the tariff at Rs 2.05 per kWh, which is currently being paid. MSEDCL submits that this rate shall prevail until such time GoM claims for additional tariff for Sardar Sarovar Project and Pench or PPA is executed.

- Power purchase from Dodson I and II

6.6.16. MSEDCL has also projected purchase of 120 MUs from Dodson I and II and the Annual Fixed Cost (AFC) as approved by the Commission in Case No. 105 of 2009 is considered. In addition, the water cess has been considered as per FY 2015-16 in total cost of Dodson II.

- Power Procurement from Renewable Energy Sources

6.6.17. MSEDCL submitted that the Commission has notified the RPO Regulations 2016. As per the said Regulations, the RPO Targets have been revised drastically. Considering the provisions of RPO Regulations 2016, MSEDCL has projected the purchase as per the RPO Regulations, 2016 and the Solar and Non-Solar rates as per the actual information available for FY 2017-18. MSEDCL has estimated the RPO Quantum considering RPO Targets as percentage of the non-renewable quantum instead of total power purchase quantum to avoid cascading effect.

6.6.18. The projected renewable energy purchase to fulfill RPO Targets for FY 2018-19 and FY 2019-20 is as shown in following table.

**Table 6-28: Renewable Energy Purchase for FY 2018-19 and FY 2019-20 as submitted by MSEDCL**

| Particulars | Units | FY 18-19 | FY 19-20 |
|---|---|---|---|
| Total Power Purchase Requirement | MUs | 1,28,940 | 1,31,183 |
| Solar RPO Target | % | 2.75% | 3.50% |
| Non Solar RPO Target | % | 11.0% | 11.50% |
| Non Renewable Energy | MUs | 1,13,361 | 1,14,072 |
| Solar Energy | MUs | 3,116 | 3,989 |
| Non Solar Energy | MUs | 12,464 | 13,122 |
| **Total Renewable Energy Quantum** | **MUs** | **15,580** | **17,112** |
| Solar Energy Rate | Rs./kWh | 4.37 | 4.37 |
| Non Solar Energy Rate | Rs./kWh | 5.59 | 5.59 |
| Solar Energy Cost | Rs. Crs | 1,362 | 1,743 |
| Non Solar Energy Cost | Rs. Crs | 6,967 | 7,335 |
| Total Renewable Energy Cost | Rs. Crs | 8,329 | 9,079 |
| **Total Renewable Energy Cost per Unit** | **Rs./kWh** | **5.35** | **5.31** |

6.6.19. MSEDCL submitted that the energy charges have been arrived at by taking weighted average cost for RE tariff considering the expected capacity addition.

6.6.20. MSEDCL submitted that it is committed to promote the Renewable Energy in the State and it will try to achieve RPO target set out by the Commission in line with the National Tariff Policy as well as capacity addition which will take place as per the GoM Policy for Grid Connected Power Projects based on New and Renewable (Non-conventional) Energy Sources 2015.

- IPP

6.6.21. MSEDCL submitted that in respect of IPPs, Variable charges and capacity charges are calculated based on the PPAs (Quoted rates) and CERC index prevailing for March 2018. Moreover, the impact of Change in Law, as per latest processed claim for the month of June 2017 is taken in variable charges on per unit basis.

- Power Purchase from short terms and FBSM

6.6.22. MSEDCL submitted that no procurement from Traders or from power exchange has been projected for the balance 2 years of the Control Period due to sufficient availability of power from the tied-up sources as compared to demand projection. However, in case of any outage of the generator or demand exceeding the power availability, MSEDCL would procure power from power exchange or from available short-term route under competitive bidding guidelines.

6.6.23. However, MSEDCL submitted that in the MYT Order for the Control Period FY 16-2017 to FY 2019-20 (Case No. 48 of 2016), the Commission has approved a ceiling rate of Rs. 4 per unit for the procurement of power procurement from short term sources during the Control Period.

6.6.24. The Commission vide its Order under Case No. 135 of 2017 dated 06th October 2017 has in-principally allowed MSEDCL to procure additional power above ceiling rate of Rs. 4.00 per unit as and when required on the e-bidding portal in accordance with the Short-Term Competitive Bidding Guidelines, and any residual power from the Power Exchanges, till December 2017. Further the said deadline was extended till May 2018 vide order under Case No. 181 of 2017 dated 05th January 2018. This has enabled MSEDCL to procure the power on power exchanges and through short term tenders on DEEP e-bidding portal to meet the rising demand of power. In April & May 2018 (provisional) MSEDCL has purchased power of 1369.99 MUs at the rate of Rs. 4.33 per unit amounting Rs. 593.77 Cr.

6.6.25. For the month of June also, MSEDCL had purchased power through short term tenders from 01st June to 15th June 2018 upto 390 MW at the rate of Rs 4.24 per unit. Moreover, in anticipation of this persisting coal shortage scenario, MSEDCL has floated the short term Power Purchase tender for the months from June-18 to Sept-18. The rate discovered is in the range of Rs. 3.93 per unit to Rs. 6.29 per unit for different time slots. MSEDCL has requested the Commission to approve the same

6.6.26. It is further submitted that MSEDCL’s demand is expected to increase due to the agricultural load from the month of October’2018. In anticipation of the reduced generation availability due to coal shortage/breakdown, etc., MSEDCL may require to purchase power from exchanges and through short term power purchase tenders throughout the year. Hence, it is submitted that, considering the volatile nature of short term power market and uncertainty in supply of power from long term sources on account of anticipating coal shortage in future, MSEDCL has requested the Commission to accord in principle approval for procurement of power on DEEP e-bidding portal/ power exchange above ceiling rate of Rs. 4.00 per unit as and when required. MSEDCL has already submitted a petition before the Commission for approval for short term power above a ceiling of Rs. 4 per unit

6.6.27. Final Energy Balancing and Settlement Account (FBSM) under Intra State ABT has been implemented w.e.f. 01.08.2011. With the implementation of ABT, the regional UI which was allocated to MSEDCL is now allocated to State pool participants. Based on this and under/ over drawal and injection in the State, the net pool imbalance charges are calculated by Maharashtra State Power Committee (MSPC). Due to difficulty in prediction of incremental/decremental quantum and the market price, these are considered NIL.

- Transmission Charges

6.6.28. MSEDCL submitted that PGCIL transmission charges are projected considering the past trend and quantum of energy flow as shown in following Table.

**Table 6-29: Transmission Charges for FY 2018-19 and FY 2019-20 as submitted by MSEDCL (Rs. Crore)**

| YEAR | FY 2018-19 | FY 2019-20 |
|---|---|---|
| PGCIL Charges | 2682 | 2922 |
| ULDC Charges | 6 | 6 |
| **Total** | **2688** | **2928** |

B. Renewable Purchase Obligation for FY 2018-19 to FY 2019-20

6.6.29. As per the MERC (Renewable Purchase Obligation, Its Compliance and Implementation of REC Framework) Regulations, 2016, MSEDCL need to procure electricity generated from renewable energy sources. For the Second Control Period of MYT, the minimum quantum of purchase (in %) from renewable energy sources ranged from 11%-15%. The said Regulations also provide that the Distribution Licensee shall include the plan for procurement of power from RE sources under its long-term power procurement plan to comply with minimum RPO target as stipulated above. However, MSEDCL submitted that considering the difficulties as submitted in following paragraphs, it is not always possible for MSEDCL to meet the RPO targets.

6.6.30. MSEDCL stated that it has taken all efforts by executing long term EPA’s with all RE generators, intending to exercise the sale to MSEDCL option, to fulfill its RPO target on the basis of CUF/PLF as determined by MEDA / MERC. In spite of the above, it is observed that, the RE generation available to MSEDCL is not as per expected CUF. Hence, MSEDCL submits that this proves either the CUF projections are to be rationalized or the RE Generator's efficiency has to be improved.

6.6.31. MSEDCL further submitted that the gross energy consumption (GEC) of the Discoms is increasing day by day in line with load growth and so is the RPO target. However, in line with the same, there is no sufficient capacity addition taking place in RE sector. Hence, since FY 2012-13 onwards shortfall is being observed in meeting the RPO target by the State utilities in general and MSEDCL in particular. However, MSEDCL states that it shall endeavour to achieve RPO targets set out by Commission in RPO Regulations 2016.

6.6.32. Following tables provide the summary of source wise power purchase for the Period FY 18-19 and FY 19-20.

**Table 6-30: Source wise Power Purchase for FY 2018-19 as submitted by MSEDCL**

| FY 2018-19 | | | | | | |
|---|---|---|---|---|---|---|
| **Source** | **MERC Approved** | | **MSEDCL Estimated** | | **Deviation** | |
| | **Quantum (MUs)** | **Cost (Rs. Crs)** | **Quantum (MUs)** | **Cost (Rs. Crs)** | **Quantum (MUs)** | **Cost (Rs. Crs)** |
| MSPGCL | 45,470 | 19,202 | 46,993 | 20,479 | 1,523 | 1,277 |
| NTPC | 25,585 | 7,365 | 29,834 | 9,243 | 4,250 | 1,879 |
| NPCIL | 5,471 | 1,283 | 5,380 | 1,378 | -91 | 95 |
| SSP | 1,210 | 248 | 1,210 | 248 | 0 | 0 |
| Pench | 136 | 28 | 136 | 28 | 0 | 0 |
| Dodson | 116 | 22 | 116 | 21 | 0 | 0 |
| JSW | 1,934 | 499 | 1,934 | 631 | 0 | 132 |
| CGPL (Mundra UMPP) | 5,158 | 1,232 | 5,158 | 1,321 | 0 | 89 |
| Adani Power | 20,601 | 7,146* | 21,110 | 6,528 | 509 | -618 |
| EMCO Power | 1,370 | 468 | 1,489 | 518 | 119 | 50 |
| Rattan India | 0 | 904 | 0 | 983 | 0 | 79 |
| Renewable | 17,066 | 9,830 | 15,580 | 8,329 | -1,486 | -1,501 |
| PGCIL Charges | | 2,592 | | 2,688 | 0 | 97 |
| **Total Power Purchase** | **1,24,116** | **50,817** | **1,28,940** | **52,394** | **4,824** | **1,577** |

**Table 6-31: Source wise Power Purchase for FY 2019-20 as submitted by MSEDCL**

| FY 2019-20 | | | | | | |
|---|---|---|---|---|---|---|
| **Source** | **MERC Approved** | | **MSEDCL Estimated** | | **Deviation** | |
| | **Quantum (MUs)** | **Cost (Rs. Crs)** | **Quantum (MUs)** | **Cost (Rs. Crs)** | **Quantum (MUs)** | **Cost (Rs. Crs)** |
| MSPGCL | 46,787 | 19,700 | 45,884 | 20,888 | -903 | 1,188 |
| NTPC | 26,853 | 7,592 | 31,120 | 9,968 | 4,267 | 2,376 |
| NPCIL | 5,486 | 1,321 | 5,485 | 1,474 | -1 | 153 |
| SSP | 1,213 | 249 | 1,213 | 249 | 0 | 0 |
| Pench | 137 | 28 | 137 | 28 | 0 | 0 |
| Dodson | 116 | 22 | 116 | 16 | 0 | -5 |
| JSW | 1,940 | 503 | 1,940 | 632 | 0 | 129 |
| CGPL | 5,172 | 1,248 | 5,172 | 1,323 | 0 | 75 |
| Adani Power | 20,658 | 7,229* | 21,512 | 6,656 | 854 | -573 |
| EMCO Power | 1,374 | 472 | 1,493 | 516 | 119 | 44 |
| Rattan India | 0 | 907 | 0 | 983 | 0 | 76 |
| Renewable | 19,365 | 11,212 | 17,112 | 9,079 | -2,253 | -2,134 |
| PGCIL Charges | 2,851 | | | 2,928 | 0 | 77 |
| **Total Power Purchase** | **1,29,101** | **53,334** | **1,31,183** | **54,741** | **2,082** | **1,407** |

6.6.33. *MSEDCL further revised the variable charge of Adani Power 1200 MW power station from the 1.75 Rs/kWh to 2.44 Rs/kWh for FY 2018-19 and FY 2019-20 in the subsequent replies to data gaps. Therefore, the Commission has considered the revised variable charge in the excel model for the its further analysis.

6.6.34. MSEDCL requested the Commission to allow the power purchase as shown in the tables above.

***Commission's Analysis and Ruling***

6.6.35. As set out in the Section on Energy Balance, the Commission has approved the following Energy Input requirement at G<>T periphery for the FY 2018-19 and FY 2019-20, as against MSEDCL's projection.

**Table 6-32: Energy Input for FY 2018-19 and FY 2019-20, as approved by Commission (MU)**

| **Particulars** | **FY 2018-19** | **FY 2019-20** |
|---|---|---|
| Energy Input Requirement at G<>T periphery **(MTR Petition)** | 1,31,791 | 1,34,227 |

| Particulars | FY 2018-19 | FY 2019-20 |
|---|---|---|
| Energy Input Requirement at G<>T periphery **(Approved in this Order)** | 1,31,971 | 1,34,956 |

6.6.36. Accordingly, for estimating the power purchase quantum and cost for the FY 2018-19 and FY 2019-20, the Commission has adopted the following two-step approach:

Step-1: Station-wise analysis of projection of energy quantum and rates, as against the MSEDCL projections.

Step-2: Approval of Station-wise energy quantum and cost based on MOD principles for each month of the Control Period, and approval of total power purchase quantum and cost for respective periods.

**A] Step-1 Analysis: Projection of available Power Purchase Quantum and Rate MSPGCL**

6.6.37. MSEDCL has provided the break-up of Station-wise power purchase quantum and cost of MSPGCL that it has considered for its projections. In its recent MTR Order for MSPGCL in Case No.196 of 2017, the Commission has approved the cost and quantum of power purchase of its existing Stations/Units for the FY 2018-19 and FY 2019-20 as shown below.

**Table 6-33: Generation Quantum of MSPGCL Stations approved in Case No. 196 of 2017 (in MU)**

| Station/Unit | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | Gross Generation | Net Generation | Gross Generation | Net Generation |
| Bhusawal | 1,340 | 1,193 | 1,344 | 1,196 |
| Chandrapur | 12,810 | 11,699 | 12,845 | 11,731 |
| Khaperkheda | 5,825 | 5,260 | 5,841 | 5,275 |
| Koradi | 2,649 | 2,379 | 2,656 | 2,393 |
| Nashik | 4,415 | 3,929 | 4,427 | 3,940 |
| Uran | 3,581 | 3,474 | 3,591 | 3,483 |
| Paras Units 3 & 4 | 3,723 | 3,407 | 3,733 | 3,416 |
| Parli Units 6 & 7 | 2,320 | 2,122 | 2,326 | 2,128 |
| Khaperkheda Unit 5 | 3,723 | 3,500 | 3,733 | 3,509 |
| Bhusawal Units 4 & 5 | 7,446 | 6,999 | 7,466 | 7,018 |
| Koradi Units 8, 9 & 10 | 14,743 | 13,859 | 14,783 | 13,896 |
| Chandrapur Units 8 & 9 | 7,446 | 6,999 | 7,466 | 7,018 |
| Parli Unit 8 | 1,160 | 1,061 | 1,163 | 1,064 |

| Station/Unit | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | Gross Generation | Net Generation | Gross Generation | Net Generation |
| **Total** | **71,180** | **65,881** | **71,375** | **66,069** |

**Table 6-34: Generation Cost of MSPGCL Stations approved in Case No. 196 of 2017**

| Station/Unit | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | AFC | ECR | AFC | ECR |
| | Rs. Crore | Rs./kWh | Rs. Crore | Rs./kWh |
| Bhusawal | 118.83 | 3.089 | 120.76 | 3.097 |
| Chandrapur | 783.53 | 2.106 | 859.69 | 2.113 |
| Khaperkheda | 457.35 | 2.619 | 495.21 | 2.626 |
| Koradi | 283.6 | 2.557 | 334.16 | 2.471 |
| Nashik | 428.08 | 3.425 | 448.67 | 3.436 |
| Uran | 148.04 | 1.941 | 151.07 | 1.944 |
| Paras Units 3 & 4 | 550.29 | 2.787 | 547.73 | 2.787 |
| Parli Units 6 & 7 | 320.39 | 3.106 | 316.73 | 3.106 |
| Khaperkheda Unit 5 | 528.87 | 2.24 | 545.2 | 2.24 |
| Bhusawal Units 4 & 5 | 1110.82 | 2.774 | 1094.96 | 2.774 |
| Koradi Units 8, 9 & 10 | 2382.77 | 2.364 | 2361.33 | 2.364 |
| Chandrapur Units 8 & 9 | 1329.74 | 2.121 | 1352.42 | 2.121 |
| Parli Unit 8 | 262.16 | 2.971 | 265.66 | 2.971 |
| **Total** | **8704.45** | **-** | **8893.57** | **-** |

6.6.38. For projecting the power purchase quantum and cost of existing Stations of MSPGCL, the Commission has taken the rates, quantum and cost approved under in the MSPGCL MTR Order in Case No. 196 of 2017, as shown above.

6.6.39. In the latest MSPGCL MTR Order The net generation and AFC have also been approved for Koyna, Bhira and Tillari Hydro Stations, and the AFC for the other Hydro Stations. That Order has also approved the net generation for the FY 2018-19 and FY 2019-20 based on design energy, which is lower than MSEDCL's projections. The Commission has accordingly taken the AFC and net generation approved in that Order.

6.6.40. The projected quantum of energy generation of MSPGCL Stations and their Variable Cost has been limited to the extent of application of MOD principles for the FY 2018-19 and FY 2019-20 for allowing the power purchase quantum and cost for the year.

**NTPC**

6.6.41. The units from NTPC Stations are projected at a PLF of 85% for thermal Stations, as per the CERC Tariff Regulations, 2014 and CERC Tariff (First Amendment) Regulations, 2015.

6.6.42. For the upcoming NTPC Units, viz., Solapur STPS 2 (660 MW), Gadarwara STPS (660 MW), Lara Chhatisgarh (800 MW) and Khargone STPP (2 x 660 MW), MSEDCL has submitted the expected COD and projected the quantum and cost over the Control Period. However, the monthly Central Electricity Authority (CEA) report on 'Broad Status of Thermal Power Projects in the Country' for April 2018 states that the expected COD of some of the upcoming Stations/Units is likely to be delayed further. The expected COD indicated by MSEDCL and as considered by the Commission on the basis of the CEA report are shown in the Table below.

**Table 6-35: COD of upcoming NTPC Stations, as considered by Commission**

| Station/Unit | Expected COD indicated by MSEDCL | Expected COD considered by Commission as per CEA Report |
|---|---|---|
| Solapur STPS 2 | Jan-19 | Mar-19 |
| Gadarwara STPS | Aug-18 | Nov-18 |
| Lara Chhatisgarh | Aug-18 | Jun-19 |
| Khargone STPP (2x800 MW) | Mar-19 | Mar-19 & Sep-19 |

6.6.43. The projected generation from these new Generating Units has been computed on a provisional basis considering the number of operating days post the expected COD in FY 2018-19 and FY 2019-20. The Commission has approved the Fixed Charges payable to the NTPC Plants as projected by MSEDCL. However, they have been adjusted pro rata depending on the number of operating days in the respective years subsequent to their expected COD. The Variable Charge of these Units has been taken as proposed by MSEDCL.

6.6.44. The power purchase quantum and Variable Charge of the NTPC Generating Stations have been limited to the extent of application of MOD Principles.

6.6.45. MSEDCL has also claimed expenses on power purchase from NTPC on account of other charges, supplementary bills and Income Tax related adjustments for FY 2018-19 and FY 2019-20. For the power purchase cost projection for FY 2018-19 and FY 2019-20, the Commission has provisionally approved these charges, but the actuals will be considered at the time of truing-up for each year subject to prudence check.

**NPCIL**

6.6.46. The Commission has approved the power purchase quantum and cost for NPCIL Generating Stations as submitted by MSEDCL. NPCIL Stations have been considered as ‘Must Run’ while applying MOD principles for FY 2018-19 and FY 2019-20. Truing-up will be undertaken considering actuals, subject to prudence check.

**SSP, Pench, Dodson I & II**

6.6.47. The Commission has approved the power purchase quantum and cost of power purchase from SSP, Pench, and Dodson I & II as proposed by MSEDCL. These Stations are included as Must Run Stations while applying the MOD principles for approval of power purchase for FY 2018-19 and FY 2019-20. Truing-up will be undertaken considering actuals, subject to prudence check.

**Renewable Purchase Obligation**

6.6.48. The Commission has specified the RPO targets for FY 2017-18 and FY 2019-20 under the RPO Regulations, 2016 as follows:

| Category | FY 2018-19 | FY 2019-20 |
|---|---|---|
| Solar | 2.75% | 3.50% |
| Non-Solar (Other RE) | 11.00% | 11.50% |
| Mini/Micro Hydro (as a % of Non-Solar RPO) | 0.2% | 0.2% |

6.6.49. The Commission has accordingly approved the RE purchase towards meeting RPO targets over FY 2018-19 and FY 2019-20 as shown in the Table below. For estimation, the Mini/Micro Hydro targets are included in the overall non-Solar RE purchase. The Solar and Non-Solar RPO targets approved by the Commission is higher than the submitted figures by MSEDCL. The solar and non-solar per unit energy rate as per the MSEDCL’s submission is considered for the RPO quantum submitted by MSEDCL. In addition, for the approved RPO quantum over and above the MSEDCL’s submitted quantum, the Solar and Non-solar per unit energy rates of Rs. 2.72 per unit and Rs. 2.87 per unit is considered respectively, both for FY 2018-19 and FY 2019-20 as per the Latest RE Tariff Order dated 18 August, 2018 in Case No. 204 of 2018. However, at the time of RPO compliance verification, the Commission shall assess the position for the respective years.

**Table 6-36: Purchase against RPO approved for FY 2018-19 and FY 2019-20**

| Particulars | Reference | Units | FY 2018-19 | FY 2019-20 |
|---|---|---|---|---|
| Total Power Purchase Requirement at Generator Bus bar | a | MUs | 1,27,199 | 1,30,634 |
| Solar RPO Target | b | % | 2.75% | 3.50% |
| Non Solar RPO Target | c | % | 11.00% | 11.50% |
| Solar RPO Obligation (Approved by Commission) | d=a*b | MUs | 3,505 | 4,582 |
| Non Solar RPO Obligation (Approved by Commission) | e=a*c | MUs | 14,021 | 15,054 |
| Solar RPO (MSEDCL's Submission) | f | MUs | 3,116 | 3,989 |
| Non Solar RPO (MSEDCL's Submission) | g | MUs | 12,464 | 13,122 |
| Solar Energy Rate (MSEDCL's Submission) | h | Rs./kWh | 4.37 | 4.37 |
| Non Solar Energy Rate (MSEDCL's Submission) | i | Rs./kWh | 5.59 | 5.59 |
| Solar Energy Rate (Latest Tariff Order) | j | Rs./kWh | 2.72 | 2.72 |
| Non Solar Energy Rate (Latest Tariff Order) | k | Rs./kWh | 2.87 | 2.87 |
| **Solar Energy Cost (Approved by Commission)** | **l= (f*h)+((d-f)*j)** | **Rs. Crs** | **1,467** | **1,904** |
| **Non-Solar Energy Cost (Approved by Commission)** | **m= (g*i)+((e-g)*k)** | **Rs. Crs** | **7,414** | **7,890** |
| **Net Solar Energy Cost per Unit (Approved by Commission)** | **n=l/d** | **Rs./kWh** | **4.19** | **4.16** |
| **Net Non-Solar Energy Cost per Unit (Approved by Commission)** | **o=m/e** | **Rs./kWh** | **5.29** | **5.24** |

**Traders**

6.6.50. MSEDCL has not projected any power purchase from these sources, and the Commission has accepted its submission accordingly.

**Independent Power Producers and Ultra Mega Power Projects (UMPPs)**

6.6.51. MSEDCL has considered power purchase from Mundra UMPP and IPPs, viz., JSW, EMCO Power, RattanIndia Amravati and Adani Power, with PPA capacity as shown in the following Table.

**Table 6-37: Capacity contracted under PPA with IPPs by MSEDCL (MW)**

| Station/Unit | PPA Capacity Contracted (MW) |
|---|---|
| CGPL UMPP Mundra | 800 |
| Adani Power 1320 MW | 1320 |

| Station/Unit | PPA Capacity Contracted (MW) |
|---|---|
| Adani Power 1200 MW | 1200 |
| EMCO Energy | 200 |
| Rattan India (Previously India Bulls Power) | 1200 |
| Adani Power 125 MW | 125 |
| Adani Power 440 MW | 440 |
| JSW Energy | 300 |

6.6.52. The Commission had sought justification for the proposed Capacity Charges, Variable Charges and Energy Charges of IPPs for each year considering the approved PPAs. MSEDCL stated that the Capacity Charge and Energy Charge in case of IPPs are calculated by applying the CERC escalation rates for Generating Stations, and submitted the detail computation. The Commission has verified the power purchase rates and other conditions outlined in the PPAs. In addition, the submitted variable charge and fixed charge was cross-verified from the MSEDCL's FAC statement for the month of March 2018 and found them to be in Order. Hence, the Commission has approved the MSEDCL's submission for FY 2018-19 and FY 2019-20.

6.6.53. The per unit Energy Charge rates for power purchase from these Stations were found to be in line with the provisions of the PPA, and the Commission has considered them for projecting the MOD stack of Generating Stations for FY 2018-19 and FY 2019-20.

6.6.54. The power purchase quantum and variable cost of these Generating Stations have been limited to the extent of application of MOD Principles for FY 2018-19 and FY 2019-20. This will be trued-up considering actuals at the end of the Control Period, subject to prudence check.

**Short-term Power Purchase and FBSM**

6.6.55. The Short term power purchase for FY 2018-19 and FY 2019-20 has been considered as nil as the entire demand would be met through the projected sources of power. However, in case of any shortfall from approved sources or when demand exceeds availability, MSEDCL may have to source power from Traders or other sources at the market price. In the last MYT order in Case No. 48 of 2016, the Commission approved a ceiling rate of Rs. 4.00 per kWh for power procurement from short-term sources over the 3rd Control Period. MSEDCL has filed a petition before the Commission for approval for short term power purchase above a ceiling of Rs. 4 per unit. The

Commission continues to keep the ceiling of Rs. 4 per unit for short term power purchase as per the last MYT order for FY 2018-19 and FY 2019-20.

6.6.56. The Commission will consider the actual short-term power purchase and FBSM adjustment, if any, subject to prudence check at the time of true-up.

**Transmission Charges**

6.6.57. MSEDCL has projected the PGCIL and ULDC charges for FY 2018-19 and FY 2019-20 considering the past trend and quantum of energy flow. Accordingly, the Commission approves Transmission Charges as submitted by MSEDCL for FY 2018-19 and FY 2019-20, subject to subsequent true-up based on actuals.

**B] Step-2 Analysis: Application of Merit Order Despatch Principle**

6.6.58. In Step-2, the Commission has applied the MOD principles and prepared a MOD Order Stack of all thermal Generating Stations/sources in the ascending order of their per unit Energy Charges. The quantum of energy generation from each source is provisionally allowed along with the corresponding Variable Charge until the projected Energy Input requirement as approved, as per the Energy Balance, is met as per the MOD Stack.

6.6.59. The Commission has also worked out the monthly MOD stack for each month of FY 2018-19 and FY 2019-20. For running the monthly MOD stack, the projected annual Energy Input requirement as approved is translated into the monthly requirement based on the monthly consumption pattern as submitted by MSEDCL.

6.6.60. Although the despatch from Generating Stations shall be subject to Merit Order, the recovery of Fixed Cost of such Stations shall be linked to its Availability. In view of this, the Commission has provisionally allowed the Fixed Charges for all the Stations as approved in Step-1 above.

6.6.61. The following Table sets out the details of the power purchase approved from Stations/Units to be treated as ‘Must Run’ during FY 2018-19 and FY 2019-20.

**Table 6-38: Power Purchase from 'Must Run' Stations/Units in FY 2018-19 and FY 2019-20, as approved by Commission**

| Station/Unit | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | Energy Charges | Power Purchase Approved | Energy Charges | Power Purchase Approved |
| | (Rs/kWh) | (MU) | (Rs/kWh) | (MU) |
| **Must Run Stations** | | | | |
| KAPP | 2.49 | 1,095 | 2.62 | 1,098 |
| TAPP 1&2 | 1.13 | 1,144 | 1.19 | 1,147 |
| TAPP 3&4 | 3.09 | 3,232 | 3.24 | 3,240 |
| SSP | 2.05 | 1,210 | 2.05 | 1,213 |
| Pench | 2.05 | 136 | 2.05 | 137 |
| Dodson I | 1.42 | 52 | 1.42 | 52 |
| Dodson II | - | 64 | - | 64 |
| Renewable - Non- Solar | 5.29 | 14,021 | 5.24 | 15,054 |
| Renewable - Solar | 4.19 | 3,505 | 4.16 | 4,582 |
| MSPGCL Hydro (Inclu. Ghatghar) | - | 3,939 | - | 3,950 |
| **Excluded from MOD** | | **28,397** | | **30,537** |

6.6.62. The power purchase from Thermal Generating Stations/Units as per MOD principles followed in FY 2018-19 and FY 2019-20, as provisionally approved by the Commission, is shown in the Tables below:

**Table 6-39: Approved Power Purchase from Thermal Stations/Units for FY 2018-19**

| Generator Name | Energy Purchase | Capacity Charges | Variable Cost per unit | Total Variable Charge | Other Charges (incl. suppl. & IT) | Total Cost | Rate per unit of power procured |
|---|---|---|---|---|---|---|---|
| | (MU) | (Rs. Crore) | Rs/kWh | (Rs. Crore) | (Rs. Crore) | (Rs. Crore) | Rs/kWh |
| Lara | - | - | 0.93 | - | - | - | - |
| SIPAT TPS 1 | 4,223 | 572 | 1.21 | 509 | 25 | 1,106 | 2.62 |
| KSTPS III | 967 | 135 | 1.22 | 118 | 10 | 262 | 2.71 |
| SIPAT TPS 2 | 2,019 | 259 | 1.24 | 250 | 6 | 515 | 2.55 |
| KSTPS | 4,572 | 306 | 1.24 | 568 | 38 | 911 | 1.99 |
| Gadarwara | 114 | 18 | 1.32 | 15 | - | 33 | 2.91 |
| VSTP II | 2,451 | 171 | 1.40 | 344 | 20 | 534 | 2.18 |
| VSTP IV | 2,408 | 354 | 1.41 | 339 | 88 | 781 | 3.24 |
| VSTP III | 2,031 | 219 | 1.41 | 286 | 20 | 525 | 2.59 |
| VSTP V | 1,204 | 200 | 1.42 | 171 | 0 | 371 | 3.08 |
| VSTP I | 3,158 | 258 | 1.50 | 474 | 26 | 757 | 2.40 |

| Generator Name | Energy Purchase | Capacity Charges | Variable Cost per unit | Total Variable Charge | Other Charges (incl. suppl. & IT) | Total Cost | Rate per unit of power procured |
|---|---|---|---|---|---|---|---|
| | (MU) | (Rs. Crore) | Rs/kWh | (Rs. Crore) | (Rs. Crore) | (Rs. Crore) | Rs/kWh |
| Mundra UMPP | 5,480 | 482 | 1.63 | 891 | 0 | 1,373 | 2.51 |
| Adani power 1320 MW | 9,042 | 1,030 | 1.88 | 1,702 | - | 2,731 | 3.02 |
| EMCO Power | 1,370 | 164 | 1.83 | 250 | 82 | 496 | 3.62 |
| GTPS URAN | 3,474 | 148 | 1.94 | 674 | - | 822 | 2.37 |
| Khargone | - | - | 1.95 | - | - | - | - |
| CHANDRAPUR - 3 | 1,280 | 86 | 2.11 | 269 | - | 355 | 2.78 |
| CHANDRAPUR - 4 | 1,280 | 86 | 2.11 | 269 | - | 355 | 2.78 |
| CHANDRAPUR - 5 | 3,047 | 204 | 2.11 | 642 | - | 846 | 2.78 |
| CHANDRAPUR - 6 | 3,047 | 204 | 2.11 | 642 | - | 846 | 2.78 |
| CHANDRAPUR - 7 | 3,047 | 204 | 2.11 | 642 | - | 846 | 2.78 |
| Chandrapur 8 | 3,500 | 665 | 2.12 | 742 | - | 1,407 | 4.02 |
| Chandrapur 9 | 3,500 | 665 | 2.12 | 742 | - | 1,407 | 4.02 |
| GANDHAR | 807 | 153 | 2.15 | 173 | 6 | 332 | 4.12 |
| KHAPARKHEDA 5 | 3,500 | 529 | 2.24 | 784 | - | 1,313 | 3.75 |
| IPP - JSW | 2,055 | 169 | 2.32 | 477 | 13 | 659 | 3.21 |
| KAWAS | 823 | 125 | 2.28 | 188 | 6 | 319 | 3.88 |
| Koradi R U-8 | 4,620 | 794 | 2.36 | 1,092 | - | 1,886 | 4.08 |
| Koradi 9 | 4,620 | 794 | 2.36 | 1,092 | - | 1,886 | 4.08 |
| Koradi10 | 4,620 | 794 | 2.36 | 1,092 | - | 1,886 | 4.08 |
| Adani power 125 MW | 856 | 127 | 2.44 | 209 | - | 336 | 3.93 |
| Adani power 1200 MW | 7,866 | 1,221 | 2.44 | 1,922 | - | 3,143 | 3.99 |
| KhSTPS-II | 842 | 115 | 2.37 | 200 | 6 | 320 | 3.81 |
| Adani power 440mw | 2,442 | 77 | 2.50 | 611 | - | 688 | 2.82 |
| KORADI - 6 | 818 | 142 | 2.56 | 209 | - | 351 | 4.29 |
| KORADI - 7 | 789 | 142 | 2.56 | 202 | - | 343 | 4.36 |
| KHAPARKHEDA - 1to 4 | 2,256 | 457 | 2.62 | 591 | - | 1,048 | 4.65 |
| Mauda II | 317 | 158 | 2.60 | 82 | 8 | 249 | 7.85 |
| BHUSAWAL 4 | 282 | 555 | 2.77 | 78 | - | 634 | |
| BHUSAWAL 5 | 78 | 555 | 2.77 | 22 | - | 577 | |
| PARAS UNIT-3 | - | 275 | 2.79 | - | - | 275 | - |
| PARAS UNIT-4 | - | 275 | 2.79 | - | - | 275 | - |
| NTPC solapur 2 | - | 11 | 2.72 | - | - | 11 | - |
| Mauda I | - | 569 | 2.76 | - | 8 | 577 | - |
| Parli replacement U 8 | - | 262 | 2.97 | - | - | 262 | - |
| BHUSAWAL - 3 | - | 119 | 3.09 | - | - | 119 | - |

| Generator Name | Energy Purchase | Capacity Charges | Variable Cost per unit | Total Variable Charge | Other Charges (incl. suppl. & IT) | Total Cost | Rate per unit of power procured |
|---|---|---|---|---|---|---|---|
| | (MU) | (Rs. Crore) | Rs/kWh | (Rs. Crore) | (Rs. Crore) | (Rs. Crore) | Rs/kWh |
| PARLI UNIT-6 | - | 160 | 3.11 | - | - | 160 | - |
| PARLI UNIT-7 | - | 160 | 3.11 | - | - | 160 | - |
| Rattanindia Amravati | - | 983 | 3.14 | - | - | 983 | - |
| PARLI -4 | - | 8 | 3.34 | - | - | 8 | - |
| PARLI -5 | - | 8 | 3.35 | - | - | 8 | - |
| NTPC solapur | - | 592 | 3.24 | - | - | 592 | - |
| NASHIK- 3,4 & 5 | - | 428 | 3.43 | - | - | 428 | - |
| **Total Thermal** | **98,802** | **17,187** | | **19,563** | **363** | **37,112** | |

### Table 6-40: Approved Power Purchase from Thermal Stations/Units for FY 2019-20

| Generator Name | Energy Purchase | Capacity Charges | Variable Cost per unit | Total Variable Charge | Other Charges (incl. suppl. & IT) | Total Cost | Rate per unit of power procured |
|---|---|---|---|---|---|---|---|
| | (MU) | (Rs. Crore) | (Rs/kWh) | (Rs. Crore) | (Rs. Crore) | (Rs. Crore) | (Rs/kWh) |
| Lara | 1,177 | 165 | 0.93 | 109 | 2.12 | 277 | 2.35 |
| SIPAT TPS 1 | 4,235 | 572 | 1.21 | 511 | 25.30 | 1,108 | 2.62 |
| KSTPS III | 970 | 135 | 1.22 | 118 | 10.06 | 263 | 2.71 |
| SIPAT TPS 2 | 2,024 | 259 | 1.24 | 251 | 6.37 | 516 | 2.55 |
| KSTPS | 4,584 | 306 | 1.24 | 569 | 38.98 | 914 | 1.99 |
| Gadarwara | 343 | 44 | 1.32 | 45 | 2.12 | 91 | 2.66 |
| VSTP II | 2,458 | 171 | 1.40 | 345 | 20.14 | 536 | 2.18 |
| VSTP IV | 2,415 | 354 | 1.41 | 340 | 91.05 | 785 | 3.25 |
| VSTP III | 2,037 | 219 | 1.41 | 287 | 20.81 | 527 | 2.59 |
| VSTP V | 1,208 | 200 | 1.42 | 171 | 0.36 | 372 | 3.08 |
| VSTP I | 3,167 | 258 | 1.50 | 475 | 26.46 | 760 | 2.40 |
| Mundra UMPP | 5,495 | 482 | 1.63 | 893 | 0.38 | 1,376 | 2.50 |
| EMCO Power | 1,374 | 159 | 1.83 | 251 | 84.47 | 494 | 3.60 |
| Adani power 1320 MW | 9,067 | 1,030 | 1.91 | 1,730 | - | 2,760 | 3.04 |
| GTPS URAN | 3,483 | 151 | 1.94 | 677 | - | 828 | 2.38 |
| Khargone | 201 | 66 | 1.95 | 39 | - | 106 | 5.24 |
| CHANDRAPUR - 3 | 1,283 | 94 | 2.11 | 271 | - | 365 | 2.85 |
| CHANDRAPUR - 4 | 1,283 | 94 | 2.11 | 271 | - | 365 | 2.85 |
| CHANDRAPUR - 5 | 3,055 | 224 | 2.11 | 646 | - | 869 | 2.85 |
| CHANDRAPUR - 6 | 3,055 | 224 | 2.11 | 646 | - | 869 | 2.85 |

| Generator Name | Energy Purchase | Capacity Charges | Variable Cost per unit | Total Variable Charge | Other Charges (incl. suppl. & IT) | Total Cost | Rate per unit of power procured |
|---|---|---|---|---|---|---|---|
| | (MU) | (Rs. Crore) | (Rs/kWh) | (Rs. Crore) | (Rs. Crore) | (Rs. Crore) | (Rs/kWh) |
| CHANDRAPUR - 7 | 3,055 | 224 | 2.11 | 646 | - | 869 | 2.85 |
| Chandrapur 8 | 3,509 | 676 | 2.12 | 744 | - | 1,421 | 4.05 |
| Chandrapur 9 | 3,509 | 676 | 2.12 | 744 | - | 1,421 | 4.05 |
| GANDHAR | 810 | 153 | 2.15 | 174 | 6.37 | 333 | 4.11 |
| KHAPARKHEDA 5 | 3,509 | 545 | 2.24 | 786 | - | 1,331 | 3.79 |
| IPP - JSW | 2,061 | 169 | 2.32 | 478 | 13.21 | 661 | 3.21 |
| KAWAS | 826 | 125 | 2.28 | 188 | 6.37 | 320 | 3.87 |
| Koradi R U-8 | 4,632 | 787 | 2.36 | 1,095 | - | 1,882 | 4.06 |
| Koradi 9 | 4,632 | 787 | 2.36 | 1,095 | - | 1,882 | 4.06 |
| Koradi10 | 4,632 | 787 | 2.36 | 1,095 | - | 1,882 | 4.06 |
| Adani power 125 MW | 859 | 127 | 2.44 | 210 | - | 337 | 3.92 |
| Adani power 1200 MW | 7,730 | 1,221 | 2.44 | 1,889 | - | 3,109 | 4.02 |
| KhSTPS-II | 845 | 115 | 2.37 | 200 | 6.37 | 321 | 3.80 |
| KORADI - 6 | 994 | - | 2.47 | 246 | - | 246 | 2.47 |
| KORADI - 7 | 912 | 167 | 2.47 | 225 | - | 392 | 4.30 |
| Adani power 440mw | 2,000 | 77 | 2.50 | 501 | - | 578 | 2.89 |
| KHAPARKHEDA - 1to 4 | 2,298 | 495 | 2.63 | 603 | - | 1,099 | 4.78 |
| Mauda II | 337 | 158 | 2.60 | 88 | 8.66 | 254 | 7.55 |
| BHUSAWAL 4 | 35 | 547 | 2.77 | 10 | - | 557 | |
| BHUSAWAL 5 | - | 547 | 2.77 | - | - | 547 | - |
| PARAS UNIT-3 | - | 274 | 2.79 | - | - | 274 | - |
| PARAS UNIT-4 | - | 274 | 2.79 | - | - | 274 | - |
| NTPC solapur 2 | - | 532 | 2.72 | - | - | 532 | - |
| Mauda I | - | 569 | 2.76 | - | 8.66 | 577 | - |
| Parli replacement U 8 | - | 266 | 2.97 | - | - | 266 | - |
| BHUSAWAL - 3 | - | 121 | 3.10 | - | - | 121 | - |
| PARLI UNIT-6 | - | 158 | 3.11 | - | - | 158 | - |
| PARLI UNIT-7 | - | 158 | 3.11 | - | - | 158 | - |
| Rattanindia Amravati | - | 983 | 3.14 | - | - | 983 | - |
| PARLI -4 | - | 8 | 3.35 | - | - | 8 | - |
| PARLI -5 | - | 8 | 3.35 | - | - | 8 | - |
| NTPC solapur | - | 592 | 3.24 | - | - | 592 | - |
| NASHIK- 3,4 & 5 | - | 449 | 3.44 | - | - | 449 | - |
| **Total Thermal** | **1,00,097** | **17,982** | | **19,662** | **378** | **38,022** | |

6.6.63. The total power purchase cost and quantum provisionally approved by the Commission over FY 2018-19 and FY 2019-20 is summarised below, subject to truing-up for the respective years considering the actuals and after prudence check.

**Table 6-41: Approved Power Purchase Cost for FY 2018-19**

| Generator Name | Energy Purchase (MU) | Capacity Charges (Rs. Crore) | Variable Cost per unit (Rs/kWh) | Total Variable Charge (Rs. Crore) | Other Charges (incl. suppl. & IT) (Rs. Crore) | Total Cost (Rs. Crore) | Rate per unit of power procured (Rs/kWh) |
|---|---|---|---|---|---|---|---|
| Must Run Plants | 28,397 | 224 | 3.72 | 10,565 | - | 10,789 | 3.80 |
| MSPGCL Total | 43,753 | 8,721 | 2.24 | 9,784 | - | 18,506 | 4.23 |
| NTPC Total | 25,937 | 4,213 | 1.43 | 3,716 | 268 | 8,197 | 3.16 |
| IPP and UMPP Total | 29,113 | 4,252 | 2.08 | 6,062 | 95 | 10,409 | 3.58 |
| PGCIL charge including Reactive energy | - | 2,688 | - | - | - | 2,688 | - |
| **Total Power purchase** | **1,27,199** | **20,098** | **2.37** | **30,128** | **363** | **50,589** | **3.98** |

**Table 6-42: Approved Power Purchase Cost for FY 2019-20**

| Generator Name | Energy Purchase (MU) | Capacity Charges (Rs. Crore) | Variable Cost per unit (Rs/kWh) | Total Variable Charge (Rs. Crore) | Other Charges (incl. suppl. & IT) (Rs. Crore) | Total Cost (Rs. Crore) | Rate per unit of power procured (Rs/kWh) |
|---|---|---|---|---|---|---|---|
| Must Run Plants | 30,537 | 236 | 3.78 | 11,553 | - | 11,789 | 3.86 |
| MSPGCL Total | 43,877 | 8,743 | 2.23 | 9,800 | - | 18,543 | 4.23 |
| NTPC Total | 27,634 | 4,992 | 1.42 | 3,910 | 280 | 9,183 | 3.32 |
| IPP and UMPP Total | 28,585 | 4,247 | 2.08 | 5,951 | 98 | 10,296 | 3.60 |
| PGCIL charge including Reactive energy | - | 2,928 | - | - | - | 2,928 | - |
| **Total Power purchase** | **1,30,634** | **21,146** | **2.39** | **31,214** | **378** | **52,738** | **4.04** |

6.6.64. Considering the above, the Commission observes that a large quantum of surplus power is expected in FY 2018-19 and FY 2019-20. The Table below shows the projected energy availability as against the energy requirement, and the corresponding surplus available which may have to be backed down.

**Table 6-43: Surplus Energy Availability in FY 2018-19 and FY 2019-20, as estimated by Commission**

| Particulars | Units | FY 2018-19 | FY 2019-20 |
|---|---|---|---|
| Energy Available | MU | 1,36,912 | 1,41,018 |
| Energy Procured | MU | 98,802 | 1,00,097 |
| Surplus Energy/Backed Down | MU | 38,110 | 40,922 |

6.6.65. Thus, surplus energy of around 40,000 MU is likely in each year of FY 2018-19 and FY 2019-20. Hence, MSEDCL should explore various options for selling the surplus power through short-term/ medium-term bilateral contracts or through Power Exchanges in an optimal and efficient manner such that the revenue gained can cushion the effective cost of power procurement. Commission has already given such directions in the MYT Order. The Commission has ruled on the compliance submitted by MSEDCL to this directive in the 'Compliance to directive' chapter of this Order.

## 6.7. Intra-State Transmission & MSLDC Charges for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.7.1. MSEDCL submitted MSETCL transmission charges in line with the Commission's order in Case No. 91 of 2016 for InSTS Tariff and Case No. 20 of 2016 for MSLDC Budget approval.

**Table 6-44: Intra State Transmission Charges for FY 2018-19 and FY 2019-20, as submitted by MSEDCL (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Deviation | MYT Order | MSEDCL (Projected) | Deviation |
| Total Intra-State Transmission Charges | 6,539 | 5,418 | (1,121) | 6,619 | 5,499 | (1,120) |

6.7.2. MSEDCL also stated that the transmission related cost of the private companies need to be relooked into since there appears to be a huge variance in the amount approved for the private companies and MSETCL vis-a-vis units handled.

***Commission's Analysis and Ruling***

6.7.3. The Commission has approved the MSEDCL's share of InSTS Charges and MSLDC Charges for FY 2018-19 and FY 2019-20 based on the respective Order of the Commission approving the InSTS Charges (Case No. 265 of 2018) consequent to MTR Orders of the transmission licensees and based on the MTR Order issued for approving the AFC of SLDC (Case No. 170 of 2017)

**Table 6-45: MSEDCL's share of InSTS Charges and MSLDC Charges for FY 2018-19 and FY 2019-20, as approved by Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Approved in this Order | MYT Order | MSEDCL (Projected) | Approved in this Order |
| Intra-State Transmission Charges | 6,539 | 5,418 | 4,303 | 6,619 | 5,499 | 4,864 |

## 6.8. O&M Expenses for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.8.1. MSEDCL worked out normative O&M as per Regulation 72 and 81 of the MERC MYT (First Amendment) Regulations, 2015. The claim of MSEDCL is presented below.

**Table 6-46: Normative O&M Expenses FY 2018-19 to FY 2019-20 as per MSEDCL (Rs. Crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | Deviation | MYT Order | Projected | Deviation |
| O&M Expenditure (Wires Business) | 4,074 | 4,937 | 863 | 4,195 | 5,237 | 1,042 |
| O&M Expenditure (Supply Business) | 2,194 | 2,659 | 465 | 2,259 | 2,820 | 561 |
| **Operation & Maintenance Expenses** | **6,268** | **7,596** | **1,328** | **6,454** | **8,056** | **1,602** |

***Commission's Analysis and Ruling***

6.8.2. The MYT Regulations, 2015 specify that:

*"72.2. The Operation and Maintenance expenses shall be derived on the basis of the Final Trued-up Operation and Maintenance expenses after adding/deducting the sharing of efficiency gains/losses, for the year ending March 31, 2016, excluding abnormal expenses, if any, subject to prudence*

*check by the Commission, and shall be considered as the Base Year Operation and Maintenance expenses."*

6.8.3. Considering these provisions, the base O&M expenses for FY 2015-16 work out to Rs. Rs.6334 crore.

*"72.3. The Operation and Maintenance expenses for each subsequent year shall be determined by escalating these Base Year expenses for FY 2015-16 by an inflation factor with 30% weightage to the average yearly inflation derived based on the monthly Wholesale Price Index of the past five financial years as per the Office of Economic Advisor of Government of India and 70% weightage to the average yearly inflation derived based on the monthly Consumer Price Index for Industrial Workers (all-India) of the past five financial years as per the Labour Bureau, Government of India, as reduced by an efficiency factor of 1% or as may be stipulated by the Commission from time to time, to arrive at the permissible Operation and Maintenance expenses for each year of the Control Period.*

*81.3. The Operation and Maintenance expenses for each subsequent year and in the Truing-up of the respective years of the Control Period shall be determined in the same manner as specified in Regulation 72.3."*

6.8.4. The escalation factor for O&M expenses is to be worked out on the inflation factor considering 30% and 70 % weightage for actual point-to-point WPI and CPI, respectively, in the previous year, reduced by an efficiency factor of 1%. Accordingly, the O&M expenses approved for each year of the Control Period are as follows:

6.8.5. Considering the escalation factor of 5.06%, after reducing 1% efficiency factor from inflation factor of 6.06% (as detailed in the O&M section of Truing up of FY 2016-17 in this Order) and O&M expenses for FY 2017-18 after considering the impact of sharing of gains, the Commission has calculated the O&M Expenses for Wires Business and Retail Supply of electricity for FY 2018-19 and FY 2019-20 as shown in following tables.

**Table 6-47: Operation & Maintenance Expenses for FY 2018-19 and FY 2019-20, as approved by Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | Approved in this Order | MYT Order | Projected | Approved in this Order |
| O&M Expenditure (Wires Business) | 4,074 | 4,937 | 4,774 | 4,195 | 5,237 | 5,015 |
| O&M Expenditure (Supply Business) | 2,194 | 2,659 | 2,570 | 2,259 | 2,820 | 2,700 |
| **Operation & Maintenance Expenses** | **6,268** | **7,596** | **7,344** | **6,454** | **8,056** | **7,715** |

## 6.9. Capital Expenditure and Capitalisation for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.9.1. MSEDCL has summarised the projection of capital expenditure and capitalisation of MSEDCL from FY 2018-19 to FY 2019-20 in the following table:

**Table 6-48: Capitalisation and Capital Expenditure for FY 18-19 and FY 19-20 (Rs. Crore)**

| Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | MYT Order | Projected | MYT Order | Projected |
| **Capital Expenditure** | | | | |
| DPR Schemes | 6318 | 4291 | 6151 | 920 |
| Non DPR Schemes | 713 | 1500 | 713 | 1400 |
| **Total** | **7031** | **5791** | **6864** | **2320** |
| **Capitalisation** | | | | |
| DPR Schemes | 1728 | 3,804 | 375 | 2,122 |
| Non DPR Schemes | 346 | 1,301 | 75 | 1,380 |
| **Total** | **2074** | **5,105** | **449** | **3,503** |

6.9.2. The scheme wise details of capital expenditure from FY 2018-19 to FY 2019-20 as submitted in the following tables:

**Table 6-49: DPR Schemes for FY 18-19 and FY 19-20**

| Schemes | Capital Expenditure | | Capitalisation | |
|---|---|---|---|---|
| | FY 2018-19 | FY 2019-20 | FY 2018-19 | FY 2019-20 |
| **a) DPR Schemes** | | | | |
| Infra Plan Works - II | 550 | - | 1,006 | 357 |
| Additional Infra _II | 994 | - | 596 | 278 |
| GFSS IV | - | - | 11 | 3 |
| Elimination of 66 KV Line | - | - | 3 | 1 |
| RAPDRP A | - | - | 8 | 2 |

| Schemes | Capital Expenditure | | Capitalisation | |
|---|---|---|---|---|
| | FY 2018-19 | FY 2019-20 | FY 2018-19 | FY 2019-20 |
| RAPDRP B | 100 | - | 304 | 101 |
| SCADA Part A | 6 | - | 14 | 5 |
| SPA:PE | - | - | 14 | 4 |
| P:SI | - | - | 8 | 2 |
| P:IE | - | - | 1 | 0.34 |
| DRUM | - | - | (0) | (0) |
| ERP | 5 | 7 | 4 | 6 |
| Agriculture Metering | - | - | 9 | 3 |
| Ag DSM-Pilot project in Mangalwedha, solapur | 0.44 | - | 1 | 0.22 |
| Star rated ceiling fan Phase-II ( HVAC) | - | - | 1 | 0.24 |
| DDUGJY | 1,058 | 504 | 762 | 637 |
| IPDS | 1,577 | 409 | 1,063 | 722 |
| Sinhansth Kumbmela Nashik | - | - | - | - |
| **Total DPR Schemes** | **4,291** | **920** | **3,804** | **2,122** |

**Table 6-50: Non-DPR Schemes for FY 18-19 and FY 19-20**

| Schemes | Capital Expenditure | | Capitalisation | |
|---|---|---|---|---|
| | FY 2018-19 | FY 2019-20 | FY 2018-19 | FY 2019-20 |
| MIS / IT Backbone ( Integrated system +Big Data + Communication Backbone) | 3 | 3 | 6 | 4 |
| P.F.C.Urban Distribution Scheme | - | - | 0.00 | 0.00 |
| Evacuation | 2 | 2 | 2 | 2 |
| Evacuation Wind Generation | 20 | 20 | 16 | 19 |
| DPDC / Non-Tribal | 180 | 180 | 159 | 174 |
| DPDC / SCP (Loan up to 2012-13) | 175 | 175 | 142 | 165 |
| DPDC / TSP + OTSP | 120 | 120 | 117 | 119 |
| New consumers | 300 | 300 | 243 | 283 |
| Back log | - | - | 26 | 8 |
| Ag Special Package for Vidabhrba /maratwada | 600 | 500 | 491 | 507 |
| Single Phasing - I, II, III | - | - | 1 | 0.28 |
| Draught Fund from Govt. | 100 | 100 | 97 | 99 |
| **Total Non DPR Schemes (b)** | **1,500** | **1,400** | **1,301** | **1,380** |

6.9.3. MSEDCL has requested the Commission to allow the capitalisation as shown in above table.

***Commission's Analysis and Ruling***

6.9.4. MSEDCL has claimed excess capitalisation over and above the in-principle approved cost for certain schemes in some years. Some of these schemes are those on which excess capitalisation had also been claimed in FY 2017-18, for which the Commission had disallowed 50% of the IDC on account of delay. The Commission has taken the same view on these schemes for the pursuing years FY 2018-19 and FY 2019-20 and has disallowed 50% of the IDC.

**Table 6-51: Excess Capitalisation**

| Scheme | Excess Capitalisation | |
|---|---|---|
| | FY 2018-19 | FY 2019-20 |
| RAPDRP A | 8 | 2 |
| SPA:PE | 14 | 4 |
| P:SI | 8 | 2 |
| P:IE | 1 | 0 |
| **Total** | **30** | **9** |

6.9.5. As emphasised in the MYT Order also, significant excess capitalisation is due to time over-run of the schemes, and excess interest was incurred which would have been capitalised as IDC. In case of schemes with excess capitalisation over and above the in-principle approved capital cost, the Commission has continued to disallow 50% of the IDC claimed by MSEDCL.

6.9.6. Further, in line with the regulatory provisions under Regulation 23.6 of MYT Regulation 2015 which specifies to limit the capitalisation of non-DPR schemes within 20% of capitalisation allowed for DPR schemes, the Commission has accordingly limited the capitalisation claimed towards non-DPR schemes in FY 2017-18.

6.9.7. Accordingly, the capitalisation approved for FY 2018-19 and FY 2019-20 is as shown in the table below:

| Particular | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | Approved in this Order | MYT Order | MSEDCL Petition | Approved in this Order |
| DPR Scheme | 1,728 | 3,804 | 3,804 | 375 | 2,122 | 2,122 |
| Non-DPR Scheme | 346 | 1,301 | 761 | 75 | 1,380 | 424 |
| Capitalisation | 2,074 | 5,105 | 4,565 | 449 | 3,503 | 2,547 |

## 6.10. Depreciation for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.10.1. MSEDCL stated that it has worked out depreciation after taking into consideration the opening balance of assets in the beginning of the year and the projected capitalisation. The depreciation rates are used as per MERC MYT Regulations, 2015. MSEDCL has submitted the depreciation projected for the period FY 2018-19 to FY 2019-20 in the following table:

**Table 6-52: Depreciation FY 18-19 to FY 19-20 (Rs. Crore)**

| Particulars | FY 2018-19 | | Deviation | FY 2019-20 | | Deviation |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | | MYT Order | Projected | |
| Opening GFA | 54,294 | 55,086 | 792 | 56,064 | 60,191 | 4,127 |
| **Depreciation** | **2,449** | **3,011** | **562** | **2,498** | **3,235** | **737** |
| % Depreciation | 4.51% | 5.47% | | 4.46% | 5.38% | |

6.10.2. MSEDCL has requested the Commission to allow depreciation as shown in above table.

***Commission's Analysis and Ruling***

6.10.3. The Commission has taken the Opening GFA as the closing GFA approved for FY 2017-18 in the provisional truing-up for computing the depreciation for pursuing years. Further, as per Regulation 25.2 (c), depreciation has not been allowed to the extent of GFA established through Consumer Contribution and Grants. The depreciation rates are as per MYT Regulations, 2015. The depreciation amount approved for 3rd Control Period is as shown in Table below:

***Table 6-53: Depreciation for FY 2018-19 and FY 2019-20***

| Particulars | FY 2018-19 | FY 2019-20 |
|---|---|---|
| | Approved in this Order | Approved in this Order |
| Opening GFA | 51,377 | 53,761 |
| Depreciation | 2,329 | 2,411 |
| % Depreciation | 4.53% | 4.49% |

***Table 6-54: summary of depreciation approved for FY 2018-19 and FY 2019-20***

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Approved | MSEDCL Petition | Approved in this Order | MYT Approved | MSEDCL Petition | Approved in this Order |
| Depreciation | 2449 | 3011 | 2,329 | 2498 | 3235 | 2,411 |

## 6.11. Interest on Long-Term Loan for FY 2018-19 and FY 2019-20

### *MSEDCL's Submission*

6.11.1. MSEDCL submitted that the addition to loan has been considered in proportion to the capital expenditure and capitalisation, hence interest capitalised is not considered.

6.11.2. Regulation 29.5 specifies that the rates of interest used for calculation of interest on long-term loans shall be weighted average rate of interest used for calculation of interest on long term loans shall be weighted average rate of interest computed on the basis of actual loan portfolio at the beginning of each year. Further, the interest should be calculated on the normative average loan availed in a particular year. Accordingly, MSEDCL has calculated the interest on long-term loans considering the weighted average rate of interest of 11.37 % for FY 2016-17.

6.11.3. The interest Expenses for the period FY 2018-19 to FY 2019-20 is projected below:

**Table 6-55: Interest Expenses for FY 18-19 and FY 19-20 (Rs. Crore)**

| Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | MYT Order | Projected | MYT Order | Projected |
| Normative Outstanding Loan at beginning of the year | 20,149 | 14,077 | 19,435 | 12,945 |
| Loan Drawal | 1,736 | 1,879 | 410 | 413 |
| Loan Repayment | 2,449 | 3,011 | 2,498 | 3,235 |
| Normative Outstanding Loan at the end of the year | 19,436 | 12,945 | 17,347 | 10,123 |
| Interest Rate | 11.83% | 11.37% | 11.83% | 11.37% |
| **Gross Interest Expenses** | **2,341** | **1,536** | **2,176** | **1,311** |

6.11.4. MSEDCL has requested the Commission to allow the interest on long term loans as submitted in above table.

### *Commission's Analysis*

6.11.5. The Commission has considered the funding pattern for capitalisation for FY 2018-19 and FY 2019-20 in the same ratio as for the funding of proposed capital expenditure, in line with the methodology adopted by MSEDCL, and after considering the approved quantum of capitalisation. This would be subject to prudence check and reviewed during the Final Truing Up and at the end of the Control Period.

**Table 6-56: Funding Pattern approved by Commission (Rs. Crore)**

| Particular | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | Amount (Rs. crore) | Funding Mix (%) | Amount (Rs. crore) | Funding Mix (%) |
| Total Capitalisation | 4,565 | | 2,547 | |
| Less: Consumer Contribution | 87 | | 110 | |
| Less: Grants | 2,094 | | 1,123 | |
| **Balance to be funded** | 2,384 | | 1,314 | |
| Equity | 704 | 30% | 394 | 30% |
| Debt | 1,681 | 70% | 920 | 70% |

6.11.6. The approved interest expenses for FY 2018-19 to FY 2019-20 (Rs. crore) are as shown in the Table below

**Table 6-57: Interest Expenses approved by the Commission for FY 2018-19 and FY 2019-20 (Rs. Crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | Approved in this Order | MYT Order | MSEDCL Petition | Approved in this Order |
| Opening Balance of Net Normative Loan | 20,149 | 14,077 | 14,334 | 19,435 | 12,945 | 13,686 |
| Less: Reduction of Normative Loan due to retirement or replacement of assets | - | - | - | - | - | - |
| Addition of Normative Loan due to capitalisation during the year | 1,736 | 1,879 | 1,681 | 410 | 413 | 920 |
| Repayment of Normative Loan during the year | 2,449 | 3,011 | 2,329 | 2,498 | 3,235 | 2,411 |
| Closing Balance of Net Normative Loan | 19,435 | 12,945 | 13,686 | 17,347 | 10,123 | 12,195 |
| Average Balance of Net Normative Loan | 19,792 | 13,511 | 14,010 | 18,391 | 11,534 | 12,940 |
| Weighted average Rate of Interest on actual Loans (%) | 11.83% | 11.37% | 11.37% | 11.83% | 11.37% | 11.37% |
| Interest Expenses | 2,341 | 1,536 | 1,593 | 2,176 | 1,311 | 1,471 |
| Expenses Capitalised | | - | - | | - | - |
| **Total Interest Expenses** | **2,341** | **1,536** | **1,593** | **2,176** | **1,311** | **1,471** |

## 6.12. Return on Equity for FY 2018-19 and FY 2019-20

### *MSEDCL's Submission*

6.12.1. MSEDCL submitted that it has proposed RoE in accordance with Regulation 28.2 and Regulations, 28.3 of MERC MYT Regulation, 2015.

6.12.2. MSEDCL has submitted the calculation of capital expenditure, equity and asset capitalisation of MSEDCL for computing the return on equity in the following table:

**Table 6-58: Calculation of Capital expenditure, Equity portion and Asset Capitalization (Rs. Crore)**

| Sr. No. | Particulars | FY 2018-19 (Projected) | FY 2019-20 (Projected) |
|---|---|---|---|
| 1 | Capital Expenditure | 5791 | 2320 |
| a | Less: Grant | 2656 | 1023 |
| b | Capital Expenditure incurred (excl Grants) | 3135 | 1297 |
| 2 | Equity | | |
| a | Internal Accural | 694 | 1024 |
| b | GoM Equity | 309 | 0 |
| c | Consumer contribution | 110 | 100 |
| 3 | Total Equity excl. Consumer Contribution | 893 | 924 |
| 4 | Equity portion of capital expenditure 4 = ( 3 / 1 b ) | 28.48% | 71.18% |
| 5 | Assets Capitalization | | |
| a | Capitalisation | 5105 | 3503 |
| b | Assets Capitalization ( to be consider in proportionate to 1 b) | 2763 | 1959 |
| **6** | **Equity portion of Assets Capitalisation** | **787** | **588** |
| | Balance Equity Portion to be treated as Loan | **-** | **807** |

6.12.3. MSEDCL has submitted that the return on equity capital is allocated on the proposed ratio of fixed assets between wires and retail supply business i.e. 90% to wires business and 10% to supply business. Therefore, the capital expenditure, grants, equity and capitalisation is divided into Wires and Supply business in the ratio of 90:10. MSEDCL has submitted the funding for various schemes in form 4.4, wherein the debt equity portion is arranged. However, MSEDCL has submitted that there are few capital works which could be funded by consumers through consumer contribution which would be reconciled at the time of finalisation of accounts. MSEDCL has submitted that it will be difficult to project and allocate the consumer contribution to any particular scheme. Therefore, MSEDCL has not submitted the consumer contribution in Form 4.4. However, for the purpose of computation on RoE, MSEDCL has projected the consumer contribution based on historical experience and capital expenditure as shown in above table.

6.12.4. For calculation of equity portion, as per MERC Regulation, the grant received needs to be deducted from the expenditure. Therefore, the capitalisation of expenditure has been worked out in proportion to the capital expenditure calculated after deducting the grant.

6.12.5. As seen in above table, the equity portion of the capital expenditure is more than 30%. However, since MYT Tariff Regulations, 2015 do not allow RoE on equity component over and above a maximum of 30% of total capital expenditure, the additional equity has been considered as normative loan and MSEDCL has claimed interest on same at an average rate of interest. MSEDCL has requested the Commission to approve the same.

6.12.6. Accordingly, the RoE for wires and supply business for the period FY 2018-19 to FY 2019-20 is projected below:

**Table 6-59: ROE for Wires business FY 18-19 to FY 19-20 (Rs. Crore)**

| Particulars | FY 2018-19 | | Deviation | FY 2019-20 | | Deviation |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | | MYT Order | Projected | |
| Regulatory Equity at the beginning of the year (Wires) | 9,821 | 11,693 | 1,872 | 9,852 | 12,401 | 2,549 |
| Capital Expenditure incurred (excl Grants) | | 2,821 | | | 1,168 | |
| Equity portion of capital expenditure | | 803 | | | 831 | |
| % of Equity portion of capital expenditure | | 28.48% | | | 71.18% | |
| Assets Capitalization | | 2,487 | | | 1,763 | |
| Equity portion of Assets Capitalisation | 31 | 708 | 677 | | 529 | 529 |
| **Regulatory Equity at the end of the year** | **9,852** | **12,401** | 2,549 | **9,852** | **12,930** | 3,078 |
| **Return on Computation** | | | | | | |
| Return on Regulatory Equity at the beginning of the year | 1,522 | 1,812 | 290 | 1,527 | 1,922 | 395 |

| Particulars | FY 2018-19 | | Deviation | FY 2019-20 | | Deviation |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | | MYT Order | Projected | |
| Return on Normative Equity portion of Asset Capitalization | 2 | 55 | 52 | - | 41 | 41 |
| Interest on Equity portion above 30% @11.37%p.a. | | | | | 41 | |
| **Total Return on Regulatory Equity for Wires** | **1,525** | **1,867** | **343** | **1,527** | **2,004** | **477** |

**Table 6-60: ROE for Supply business FY 18-19 to FY 19-20 (Rs. Crore)**

| Particulars | FY 2018-19 | | Deviation | FY 2019-20 | | Deviation |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | | MYT Order | Projected | |
| Regulatory Equity at the beginning of the year (Supply) | 1,091 | 1,299 | 208 | 1,095 | 1,378 | 283 |
| Capital Expenditure incurred (excl Grants) | | 313 | | | 130 | |
| Equity portion of capital expenditure | | 89 | | | 92 | |
| % of Equity portion of capital expenditure | | 28.48% | | | 71.18% | |
| Assets Capitalization | | 276 | | | 196 | |
| Equity portion of Assets Capitalisation | 3 | 79 | 76 | | 59 | 59 |
| **Regulatory Equity at the end of the year** | **1,094** | **1,378** | 284 | **1,095** | **1,437** | 342 |
| **Return on Computation** | | | | | | |
| Return on Regulatory Equity at the beginning of the year | 191 | 227 | 36 | 192 | 241 | 50 |
| Return on Normative Equity portion of Assett Capitalization | 0 | 7 | 7 | - | 5 | 5 |
| Interest on Equity portion above 30% | | | | | 5 | |
| **Total Return on Regulatory Equity for Supply** | **191** | **234** | **43** | **192** | **251** | **59** |

6.12.7. MSEDCL has requested the Commission to approve the return on equity for both wheeling and supply business as per above projections.

***Commission's Analysis and Ruling***

6.12.8. The Commission approves the RoE for FY 2018-19 and FY 2019-20 at the regulated rate of 17.5% and 15.5% for the Supply and Wires Business, respectively, as claimed by MSEDCL.

6.12.9. The Commission has considered the funding pattern as discussed in the previous Section for approving the RoE for the ensuing years. It has taken the regulatory equity at the end of FY 2017-18, as approved in this Order, as the opening balance for FY 2018-19. The approved closing balance of equity for FY 2018-19 in this Order is taken as the opening balance for FY 2019-20.

6.12.10. The following Tables show the RoE approved by the Commission for the 3rd Control Period for the Wires and Supply Business:

**Table 6-61: Return on Equity (Wires) for FY 2018-19 and FY 2019-20 approved by Commission (Rs. Crore)**

| Particulars | % | FY 2018-19 | FY 2019-20 |
|---|---|---|---|
| Regulatory Equity at the beginning of the year | | 11,066 | 11,699 |
| Equity portion of Assets Capitalisation | | 633 | 912 |
| **Regulatory Equity at the end of the year** | | 11,699 | 12,612 |
| **Return on Equity Computation** | | | |
| Return on Regulatory Equity at the beginning of the year - @15.5% | 15.50% | 1,715 | 1,813 |
| Return on Normative Equity portion of Asset Capitalisation - @15.5%/2 | 15.50% | 49 | 71 |
| Interest on Equity portion above 30% @11.37%p.a. | | - | 22 |
| **Total Return on Regulatory Equity** | | **1,764** | **1,906** |

**Table 6-62: Return on Equity (Supply) for FY 2018-19 and FY 2019-20 approved by Commission (Rs. Crore)**

| Particulars | % | FY 2018-19 | FY 2019-20 |
|---|---|---|---|
| Regulatory Equity at the beginning of the year | | 1,229 | 1,299 |
| Equity portion of Assets Capitalisation | | 70 | 101 |
| **Regulatory Equity at the end of the year** | | 1,299 | 1,401 |
| **Return on Equity Computation** | | | |
| Return on Regulatory Equity at the beginning of the year - @17.5% | 17.50% | 215 | 227 |
| Return on Normative Equity portion of Asset Capitalisation - @17.5%/2 | 17.50% | 6 | 9 |
| Interest on Equity portion above 30% @11.37%p.a. | | - | 3 |
| **Total Return on Regulatory Equity** | | **221** | **240** |

**Table 6-63: Summary of RoE (Wires and Supply) approved by the Commission (Rs. Crores)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | Approved in this Order | MYT Order | MSEDCL Petition | Approved in this Order |
| RoE for Wires Business | 1,525 | 1867 | 1,764 | 1,527 | 2004 | 1,906 |
| RoE for Retail Supply Business | 191 | 234 | 221 | 192 | 251 | 240 |
| **Return on Equity** | **1,716** | **2,102** | **1,986** | **1,719** | **2,255** | **2,146** |

### 6.13. Interest on Working Capital for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.13.1. MSEDCL has worked out interest on working capital as per Regulation 31.3 of the MYT Regulations, 2015 which provides for IoWC for the Wires Business. Accordingly, MSEDCL has calculated the IoWC for the period FY 2018-19 to FY 2019-20 @ 9.75% (MCLR + 150 basis points) for Wires Business as shown in following Table:

**Table 6-64: Interest on Working Capital and Security Deposit for Wires Business FY 18-19 to FY 19-20, as per MSEDCL (Rs. Crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | Deviation | MYT Order | Projected | Deviation |
| **Computation of Working Capital** | | | | | | |
| O&M expenses for a month | 340 | 411 | 71 | 350 | 436 | 86 |
| Maintenance Spares at 1% of Opening GFA | 489 | 496 | 7 | 505 | 542 | 37 |
| One and half months equivalent of the expected revenue from charges for use of Distribution Wires | 1,204 | 1,246 | 42 | 1,204 | 1,246 | 42 |
| Less: | | | | | | |
| Amount of Security Deposit from Distribution System users | (702) | (768) | (66) | (737) | (845) | (108) |
| Total Working Capital Requirement | 1,330 | 1,385 | 55 | 1,322 | 1,379 | 57 |
| | | | | | | |

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | Deviation | MYT Order | Projected | Deviation |
| **Computation of Working Capital Interest** | | | | | | |
| Rate of Interest (% p.a) | 10.80% | 9.75% | -1.05% | 10.80% | 9.75% | -1.05% |
| **Interest on Working Capital** | **144** | **135** | **(9)** | **143** | **134** | **(9)** |
| | | | | | | |
| **Interest on Security Deposit** | | | | | | |
| Rate of Interest (% p.a) | 10.80% | 8.25% | | 10.80% | 8.25% | |
| **Interest on Security Deposit** | **76** | **63** | **(13)** | **80** | **70** | **(10)** |

6.13.2. MSEDCL submitted that the amendment to the Regulation 29.11 of MYT Regulations 2015 provides for Interest on Security Deposit at MCLR plus 150 basis points. MSEDCL also submitted that it has divided the total consumer security deposit in 10% to wires and 90% to Supply Business. The Interest on Working Capital for Retail Supply Business for the period FY 18-19 to FY 19-20 are shown in following Table.

**Table 6-65: Interest on Working Capital and Security Deposit for Supply Business FY 18-19 to FY 19-20 as per MSEDCL (Rs. Crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | Deviation | MYT Order | Projected | Deviation |
| **Computation of Working Capital** | | | | | | |
| O&M expenses for a month | 183 | 222 | 39 | 188 | 235 | 47 |
| Maintenance Spares at 1% of Opening GFA | 54 | 55 | 1 | 56 | 60 | 4 |
| One and half months equivalent of the expected revenue from sale of electricity including revenue from CSS and Additional Surcharge | 7,640 | (478) | (8,118) | 8,075 | 8,612 | 537 |
| Less: | | | | | | |
| Amount of Security Deposit from retail supply consumers | (6,315) | (6,915) | (600) | (6,631) | (7,606) | (975) |
| One month equivalent of cost of power purchase, Transmission Charges and MSLDC Charges | (4,780) | (4,818) | (38) | 4,996 | (5,020) | (24) |
| Total Working Capital Requirement | (3,218) | (11,934) | (8,716) | (3,308) | (3,719) | (411) |
| | | | | | | |
| **Computation of Working Capital Interest** | | | | | | |

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | Deviation | MYT Order | Projected | Deviation |
| Rate of Interest (% p.a) | 10.80% | 9.75% | -1.05% | 10.80% | 9.75% | -1.05% |
| **Interest on Working Capital** | - | - | - | - | - | - |
| | | | | | | |
| **Interest on Security Deposit** | | | | | | |
| Rate of Interest (% p.a) | 10.80% | 8.25% | -2.55% | 10.80% | 8.25% | -2.55% |
| **Interest on Security Deposit** | **682** | **570** | **(112)** | **716** | **628** | **(88)** |

***Commission's Analysis and Ruling***

6.13.3. The Commission has reworked the IoWC in accordance with the norms specified in the MYT Regulations, 2015 and based on the parameters such as O&M Expenses, Wires ARR and Supply ARR approved in this Order.

6.13.4. As regards the rate for computing the IoWC and interest on CSD for the period FY 2018-19 to FY 2019-20, the Commission has considered the same as 9.45% and 9.65% respectively, as per the MCLR rate at the time of filing of the MTR Petition, in accordance with the MYT Regulations, 2015.

6.13.5. As regards CSD, the Commission has considered the same amount as submitted by MSEDCL. Further, as regards rate of interest on CSD, the same has been considered in accordance with Regulation 29.11 which specifies that interest rate should be base rate plus 150 basis point as on 1st April of the respective year. Accordingly, the interest rate is considered as 9.65% for FY 2018-19. The same interest rate has been considered for FY 2019-20.

6.13.6. The IoWC approved for the Wires and Supply Business for FY 2018-19 and FY 2019-20 is shown in the following Tables.

**Table 6-66: Interest on Working Capital and Security Deposits for Wires Business, as approved for FY 2018-19 and FY 2019-20, as approved by Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | Approved in this Order | MYT Order | Projected | Approved in this Order |
| **Computation of Working Capital** | | | | | | |
| O&M expenses for a month | 340 | 411 | 398 | 350 | 436 | 418 |

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | Approved in this Order | MYT Order | Projected | Approved in this Order |
| Maintenance Spares at 1% of Opening GFA | 489 | 496 | 481 | 505 | 542 | 522 |
| One and half months equivalent of the expected revenue from charges for use of Distribution Wires | 1,204 | 1,246 | 1,206 | 1,204 | 1,246 | 1,247 |
| Less: | | | | | | |
| Amount of Security Deposit from Distribution System users | (702) | (768) | (768) | (737) | (845) | (845) |
| Total Working Capital Requirement | 1,330 | 1,385 | 1,317 | 1,322 | 1,379 | 1,341 |
| | | | | | | |
| **Computation of Working Capital Interest** | | | | | | |
| Rate of Interest (% p.a) | 10.80% | 9.75% | 9.45% | 10.80% | 9.75% | 9.45% |
| **Interest on Working Capital** | **144** | **135** | **124** | **143** | **134** | **127** |
| | | | | | | |
| **Interest on Security Deposit** | | | | | | |
| Rate of Interest (% p.a) | 10.80% | 8.25% | 9.65% | 10.80% | 8.25% | 9.65% |
| **Interest on Security Deposit** | **76** | **63** | **74** | **80** | **70** | **82** |

**Table 6-67: Interest on Working Capital and Security Deposits for Supply Business, as approved for FY 2018-19 and FY 2019-20, as approved by Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | Approved in this Order | MYT Order | Projected | Approved in this Order |
| **Computation of Working Capital** | | | | | | |
| O&M expenses for a month | 183 | 222 | 214 | 188 | 235 | 225 |
| Maintenance Spares at 1% of Opening GFA | 54 | 55 | 53 | 56 | 60 | 58 |
| One and half months equivalent of the expected revenue from sale of electricity including revenue from CSS and Additional Surcharge | 7,640 | (478) | 8,220 | 8,075 | 8,612 | 8,652 |
| Less: | | | | | | |
| Amount of Security Deposit from retail supply consumers | (6,315) | (6,915) | (6,915) | (6,631) | (7,606) | (7,606) |

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | Projected | Approved in this Order | MYT Order | Projected | Approved in this Order |
| One month equivalent of cost of power purchase, Transmission Charges and MSLDC Charges | (4,780) | (4,818) | (4,574) | 4,996 | (5,020) | (4,800) |
| Total Working Capital Requirement | (3,218) | (11,934) | (3,001) | (3,308) | (3,719) | (3,472) |
| | | | | | | |
| **Computation of Working Capital Interest** | | | | | | |
| Rate of Interest (% p.a) | 10.80% | 9.75% | 9.45% | 10.80% | 9.75% | 9.45% |
| **Interest on Working Capital** | - | - | - | - | - | - |
| | | | | | | |
| **Interest on Security Deposit** | | | | | | |
| Rate of Interest (% p.a) | 10.80% | 8.25% | 9.65% | 10.80% | 8.25% | 9.65% |
| **Interest on Security Deposit** | **682** | **570** | **667** | **716** | **628** | **734** |

## 6.14. Other Finance Charges

***MSEDCL's Submission***

6.14.1. As per Regulation 29.8 of MERC MYT Regulations, 2015, the Commission at the time of truing-up shall allow the Finance Charges. The relevant extracts of the regulations are reproduced below.

> *"29.8 The finance charges incurred for obtaining loans from financial institutions for any Year shall be allowed by the Commission at the time of Truing-up, subject to prudence check."*

6.14.2. Therefore, in line with the above regulations, MSEDCL has not projected any finance charges for the period FY 2018-19 to FY 2019-20. MSEDCL requested the Commission to allow the same at the time of truing-up.

***Commission's Analysis and Ruling***

6.14.3. The Commission shall consider the Other Finance Charges at the time of truing-up of the respective years, in accordance with Regulation 29.8.

## 6.15. Provision for Bad Debts for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.15.1. MSEDCL submitted that the bad debts are inseparable incidents of the business of electricity distribution. Regulation 73 and 82 of the MERC MYT Regulations, 2015 specifies that a provision for bad and doubtful debt may be allowed up to 1.5% of the amount shown as trade receivables or receivables from sale of electricity in the audited accounts of the distribution licensee duly allocated for wires and supply business. The MYT Regulations 2015 also provides that if the cumulative provisioning for bad and doubtful debts allowed exceeds five per cent of the amount shown as Receivables no such appropriation shall be allowed. Since, the cumulative provisioning exceeds 5% beyond FY 2018-19, MSEDCL has not claimed any provision for bad and doubtful debts for the period FY 2019-20. Details of the same have been shown in the table below:

**Table 6-68: Details of Bad Debts provision (Rs. Crore)**

| Particulars | FY 2015-16 | FY 2016-17 | FY 2017-18 | FY 2018-19 | FY 2019-20 |
|---|---|---|---|---|---|
| Op. Provision | 301 | 689 | 1,121 | 1,612 | - |
| Addition incl. Bad Debt written off | 405 | 492 | 492 | 27 | - |
| Less : write off | (16) | (60) | | | |
| Cl. Provision | 689 | 1,121 | 1,612 | 1,639 | - |
| Receivables | 26,967 | 32,768 | 32,768 | 32,768 | - |
| Yearly Provision as % of receivables | 1.50% | 1.50% | 1.50% | 0.08% | - |
| **Cumulative Provision as % of receivables** | **2.56%** | **3.42%** | **4.92%** | **5.00%** | **-** |

6.15.2. A comparison of approved provisioning for bad and doubtful debts and claimed by MSEDCL is given below:

**Table 6-69: Provision for Bad and Doubtful Debt for Wires Business FY 2018-19 to FY 2019-20, as submitted by MSEDCL (Rs. Crore)**

| Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | MYT Order | MSEDCL (Projected) |
| Receivables for the year | 1,722 | 3,277 | 1,722 | - |
| % of Receivables | 1.50% | | 1.50% | |
| Provision for Bad Debts for Wires Business | 26 | 3 | 26 | - |

**Table 6-70: Provision for Bad and Doubtful Debt for Supply Business FY 2018-19 to FY 2019-20, as per submitted by MSEDCL (Rs. Crore)**

| Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | MYT Order | MSEDCL (Projected) |
| Receivables for the year | 15,494 | 29,492 | 15,494 | - |
| % of Receivables | 1.50% | | 1.50% | |
| Provision for Bad Debts for Supply Business | 232 | 24 | 232 | - |

***Commission's Analysis and Ruling***

6.15.3. The Commission has considered receivables as submitted by MSEDCL for the purpose of approval of projection of such expense for FY 2018-19 and FY 2019-20. It has approved the provisioning towards Bad and Doubtful Debts as per Regulation 73, as shown in the Tables below. Further, no provision for bad debts is allowed for FY 2019-20 as the same exceeds the 5% of receivables in the year. This treatment is in line with limit specified under Regulation 73 and 82 of the MERC MYT Regulations, 2015.

**Table 6-71: Provision for Bad and Doubtful Debts for Wires Business, as approved by Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Approved in this Order | MYT Order | MSEDCL (Projected) | Approved in this Order |
| Receivables for the year | 1,722 | 3,277 | 3,277 | 1,722 | - | - |
| % of Receivables | 1.50% | 0.08% | 0.08% | 1.50% | | |
| Provision for Bad Debts for Wires Business | 26 | 3 | 3 | 26 | - | - |

**Table 6-72: Provision for Bad and Doubtful Debts for Supply Business, as approved by Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Approved in this Order | MYT Order | MSEDCL (Projected) | Approved in this Order |
| Receivables for the year | 15,494 | 29,492 | 29,492 | 15,494 | - | - |
| % of Receivables | 1.50% | 0.08% | 0.08% | 1.50% | | |
| Provision for Bad Debts for Supply Business | 232 | 24 | 24 | 232 | - | - |

## 6.16. Other Expenses for FY 2018-19 and FY 2019-20

### *MSEDCL's Submission*

6.16.1. MSEDCL has claimed 'Other Expenses' comprising expenditure on account of Non-Moving items written off, interest to suppliers/contractors, Incentive to distribution franchisee and other expenses viz. compensation for injuries to staff and outsiders. MSEDCL has estimated the Other Expenses considering a nominal 5% increase over previous year, for the period FY 2018-19 to FY 2019-20, as shown in the following Table:

**Table 6-73: Other Expenses for FY 2018-19 and FY 2019-20, as submitted by MSEDCL (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Deviation | MYT Order | MSEDCL (Projected) | Deviation |
| Other Expenses | 16 | 68 | 52 | 17 | 71 | 54 |

### *Commission's Analysis and Ruling*

6.16.2. For the purpose of approval of other expense for FY 2018-19 and FY 2019-20, the Commission has disallowed the expense towards heads of - expense of Refund of Additional Supply Charge, expense of Refund of RLC. MSEDCL has neither proposed to refund any such amount during the respective years nor it has claimed any amount on account of such refund under the respective ARR heads of RLC refund and ASC refund.

6.16.3. Accordingly, the Commission has approved the following towards Other Expenses, subject to prudence check at the time of true-up.

6.16.4. The Commission has approved the Other Expenses as shown in the Table below:

**Table 6-74: Other Expenses for FY 2018-19 and FY 2019-20, as approved by Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Approved in this Order | MYT Order | MSEDCL (Projected) | Approved in this Order |
| Compensation for injuries, death to staff | 3 | 1 | 1 | 3 | 1 | 1 |
| Compensation for injuries, death to others | 7 | 16 | 16 | 8 | 16 | 16 |

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Approved in this Order | MYT Order | MSEDCL (Projected) | Approved in this Order |
| Non Moving Items | 2 | 4 | 4 | 2 | 4 | 4 |
| Expenditure of refund of add supply charges | - | 1 | - | - | 1 | - |
| Expenditure Of Refund of RLC as per MERC Order | - | 1 | - | - | 1 | - |
| Interest to Suppliers/Contractors | 3 | - | - | 3 | - | - |
| Others | 1 | 3 | 3 | 1 | 3 | 3 |
| Expected Credit loss on other receivables | - | 43 | 43 | - | 46 | 46 |
| **TOTAL** | **16** | **68** | **66** | **17** | **71** | **70** |

### 6.17. Contribution to Contingency Reserves for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.17.1. MSEDCL submitted that considering the precarious financial condition and unavailability of sufficient funds to discharge its various liabilities, it had not been feasible for MSEDCL to invest in contingency reserves. Considering the critical financial situation, MSEDCL may not be able to invest any amount in contribution to contingency reserves. Accordingly, the same not been claimed in ARR of the period FY 2018-19 to FY 2019-20.

**Table 6-75: Contribution to Contingency Reserve for FY 2018-19 and FY 2019-20, as submitted by MSEDCL (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Deviation | MYT Order | MSEDCL (Projected) | Deviation |
| Contribution to Contingency Reserves | 143 | - | (143) | 149 | - | (149) |

***Commission's Analysis and Ruling***

6.17.2. The Commission observes that MSEDCL has not claimed contribution to contingency reserve since FY 2011-12 and therefore no investment have been made subsequent to FY 2011-12. However, for projection purpose Commission has been allowing regularly, but no investments are made out of it. Since MSEDCL is not making any investments even after allowing such expenses in the past, the Commission has not allowed any Contingency Reserve in line with the claim of MSEDCL:

**Table 6-76: Contribution to Contingency Reserve as approved by Commission for FY 2018-19 and FY 2019-20 (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Approved in this Order | MYT Order | MSEDCL (Projected) | Approved in this Order |
| Contribution to Contingency Reserves | 143 | - | - | 149 | - | - |

## 6.18. Incentives and Discounts for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.18.1. MSEDCL submitted that for FY 2018-19 and FY 2019-20, the Incentives and Discounts are projected considering a nominal rise of 5% over previous year.

**Table 6-77: Incentives and Discounts for FY 2018-19 and FY 2019-20, as submitted by MSEDCL (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Deviation | MYT Order | MSEDCL (Projected) | Deviation |
| Incentives and Discounts | 299 | 259 | (40) | 314 | 272 | (42) |

***Commission's Analysis and Ruling***

6.18.2. The annual escalation of 5% for projecting Incentives and Discounts by MSEDCL appears to be reasonable. The Commission has thus approved the projection, accordingly, as shown in the Table below:

**Table 6-78: Incentives and Discounts as approved by Commission for FY 2018-19 and FY 2019-20 (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Approved in this Order | MYT Order | MSEDCL (Projected) | Approved in this Order |
| Incentives and Discounts | 299 | 259 | 259 | 314 | 272 | 272 |

## 6.19. Non-Tariff Income for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.19.1. Regulation 74.1 of MERC MYT Regulations, 2015 provides for Non-Tariff Income. The regulation is as follows:

*"...74.1 The amount of non-tariff income relating to the Distribution Wires Business as approved by the Commission shall be deducted from the Aggregate Revenue Requirement in determining the wheeling charges of Distribution Wires Business.*

*Provided that the Distribution Licensee shall submit full details of its forecast of Non-Tariff Income to the Commission in such form as may be stipulated by the Commission."*

6.19.2. MSEDCL has certain sources of non-tariff income viz. interest on arrears of consumers, delayed payment charges, interest on staff loans and advances, sale of scrap, interest on investment, rebate on power purchase, etc. Annual increase of 5% over previous year is assumed for the heads covered under non-tariff income.

6.19.3. MSEDCL submitted that the in the MYT, the projections of the Non-Tariff Income were done considering the base figures of FY 2014-15. However, for FY 2018-19 and FY 2019-20, MSEDCL projected based on the FY 2017-18 actual figures as base which were lower with the impact of transfer of income from the deferred income under the head of other/miscellaneous receipts.

6.19.4. However, Regulation 36.3 of the MERC MYT Regulations, 2015 provides for non-inclusion of the Delayed Payment Charge and Interest on Delayed Payment in Non-Tariff Income. The relevant Regulation is reproduced below for reference:

*"Such Delayed Payment Charge and Interest on Delayed Payment earned by the Generating Company or the Licensee shall not be considered under its Non-Tariff Income."*

6.19.5. Accordingly, MSEDCL has not considered any Delayed Payment Charge and Interest on Delayed Payment in Non-Tariff Income. Following table shows the projected non-tariff income for the period FY 2018-19 to 2019-20.

**Table 6-79: Non-Tariff Income for FY 2018-19 and FY 2019-20, as submitted by MSEDCL (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Deviation | MYT Order | MSEDCL (Projected) | Deviation |
| Rents of land or buildings | 2 | 1 | (0) | 2 | 1 | (0) |
| Sale of Scrap | 12 | 53 | 41 | 13 | 56 | 43 |

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Deviation | MYT Order | MSEDCL (Projected) | Deviation |
| Income from investments | 19 | 16 | (3) | 20 | 17 | (3) |
| Open access charges | 12 | - | (12) | 13 | - | (13) |
| Interest from Franchisee | 4 | - | (4) | 5 | - | (5) |
| Income from sale of tender documents | - | 7 | 7 | - | 7 | 7 |
| Rebate on power purchase | 82 | - | (82) | 86 | - | (86) |
| Prompt payment discount from REC/PFC | - | 15 | 15 | - | 16 | 16 |
| Other/Miscellaneous receipts | 705 | 958 | 253 | 740 | 1,006 | 266 |
| Interest on staff loans & Advances | - | - | - | - | - | - |
| Others (income from prior period) | - | - | - | - | - | - |
| Recovery from theft and malpractice | 67 | - | (67) | 67 | | (67) |
| **Total** | **903** | **1,051** | **148** | **945** | **1,104** | **159** |

### *Commission's Analysis and Ruling*

6.19.6. The Commission has examined various heads under which MSEDCL has proposed under Non-Tariff Income. These heads have been projected by MSEDCL with an increase of 5% over the income projected for previous years. Commission has accepted the projections against these heads on a provisional basis, subject to prudence check.

6.19.7. In the light of the above, the Commission has approved the following Non-Tariff Income provisionally for FY 2017-18.

**Table 6-80: Non-Tariff Income as approved by Commission for FY 2018-19 and FY 2019-20 (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Approved in this Order | MYT Order | MSEDCL (Projected) | Approved in this Order |
| Rents of land or buildings | 2 | 1 | 1 | 2 | 1 | 1 |
| Sale of Scrap | 12 | 53 | 53 | 13 | 56 | 56 |
| Income from investments | 19 | 16 | 16 | 20 | 17 | 17 |
| Open access charges | 12 | - | - | 13 | - | - |
| Interest from Franchisee | 4 | - | - | 5 | - | - |
| Income from sale of tender documents | - | 7 | 7 | - | 7 | 7 |
| Rebate on power purchase | 82 | - | - | 86 | - | - |
| Prompt payment discount from REC/PFC | - | 15 | 15 | - | 16 | 16 |
| Other/Miscellaneous receipts | 705 | 958 | 958 | 740 | 1,006 | 1,006 |
| Recovery from theft and malpractice | 67 | - | - | 67 | - | - |
| **Total** | **903** | **1,051** | **1,051** | **945** | **1,104** | **1,104** |

## 6.20. Income from Wheeling Charges from Open Access Consumers

### *MSEDCL's Submission*

6.20.1. MSEDCL submitted that it has projected the income from wheeling considering a nominal increase of 5% per annum to project the income from wheeling charges. Following table shows the income from wheeling charges for FY 2018-19 to FY 2019-20.

**Table 6-81: Income from Wheeling Charges for FY 2018-19 and FY 2019-20, as submitted by MSEDCL (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Deviation | MYT Order | MSEDCL (Projected) | Deviation |
| Income from Wheeling Charges | 5 | 2 | (3) | 5 | 2 | (3) |

### *Commission's Analysis and Ruling*

6.20.2. The Commission has accepted the wheeling charges projected by MSEDCL for the purpose of approval of projection of such expenses. The approved wheeling charge is as shown below.

6.20.3. The approved income from Wheeling Charges is shown in the Table below:

**Table 6-82: Income from Wheeling Charges for the FY 2018-19 and FY 2019-20, as approved by Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Approved in this Order | MYT Order | MSEDCL (Projected) | Approved in this Order |
| Income from Wheeling Charges | 5 | 2 | 2 | 5 | 2 | 2 |

## 6.21. Income from Open Access Charges

### *MSEDCL's Submission*

6.21.1. MSEDCL has projected the income from CSS with prevailing CSS at respective voltage level and other income such as energy charges, transmission charges, wheeling charges, and operating charges estimated with an escalation of 5% over the provisional income for FY 17-18.

6.21.2. The following table shows the income from Cross Subsidy Surcharge and Open Access Charges for the period FY 2018-19 to FY 2019-20 based on above assumption.

**Table 6-83: Income from Open Access Charges for the FY 2018-19 and FY 2019-20, as submitted by MSEDCL (in Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Deviation | MYT Order | MSEDCL (Projected) | Deviation |
| Income from Open Access Charges | 648 | 641 | (7) | 674 | 675 | 1 |

***Commission's Analysis and Ruling***

6.21.3. The Commission has accepted the income on open access charges projected by MSEDCL on provisional basis. The approved wheeling charge for FY 2018-19 and FY 2019-20 as shown in the Table below:

**Table 6-84: Income from Open Access Charges for FY 2018-19 and FY 2019-20, as approved by Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Approved in this Order | MYT Order | MSEDCL (Projected) | Approved in this Order |
| Income from Open Access Charges | 648 | 641 | 641 | 674 | 675 | 675 |

### 6.22. Revenue at Existing Tariff

***MSEDCL's Submission***

6.22.1. Considering the projected sales, number of consumers, and Connected Load/ Contract Demand and prevailing tariff, MSEDCL has projected the year-wise revenue for the period for the period FY 2018-19 to FY 2019-20 as summarised in the following Table.

**Table 6-85: Revenue at existing Tariff for FY 2018-19 and FY 2019-20, as submitted by MSEDCL (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Deviation | MYT Order | MSEDCL (Projected) | Deviation |
| Revenue at existing tariff | 68,155 | 65,384 | (2,771) | 72,977 | 68,565 | (4,412) |

***Commission's Analysis and Ruling***

6.22.2. Considering the revised approved projected sales, number of consumers, and Connected Load/ Contract Demand and the prevailing tariff, the Commission has approved the Revenue from the existing Tariff for FY 2018-19 and FY 2019-20 as shown in the following Table:

**Table 6-86: Revenue at existing Tariff for FY 2018-19 and FY 2019-20, as approved by Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Approved in this Order | MYT Order | MSEDCL (Projected) | Approved in this Order |
| Revenue at existing tariff | 68,155 | 65,384 | 65,639 | 72,977 | 68,565 | 69,086 |

## 6.23. Income from Additional Surcharge

6.23.1. MSEDCL has estimated the income from Additional Surcharge on the estimated quantum of open access with prevailing rate of Rs.1.11 per unit. The summary of projected incomes from Additional Surcharge as compared to approved is outlined in following table:

**Table 6-87: Income from Additional Surcharge for FY 2018-19 and FY 2019-20, as submitted by MSEDCL (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Deviation | MYT Order | MSEDCL (Projected) | Deviation |
| Income from Additional Surcharge | 738 | 122 | (616) | 768 | 126 | (642) |

***Commission's Analysis and Ruling***

6.23.2. The detailed analysis of the Additional Surcharge as proposed by MSEDCL is elaborated in the Chapter on Tariff Philosophy. However, it is observed that the income from such charges would vary depending on the actual OA volume of the applicable category of OA consumers. Thus, for the purpose of approval of projection of such income during FY 2018-19 and FY 2019-20 the Commission has approved the same at the level as estimated by MSEDCL. The approved income from Additional Surcharge for FY 2018-19 and FY 2019-20 as shown in the following Table.

**Table 6-88: Income from Additional Surcharge for FY 2018-19 and FY 2019-20, as approved by Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL (Projected) | Approved in this Order | MYT Order | MSEDCL (Projected) | Approved in this Order |
| Income from Additional Surcharge | 738 | 122 | 122 | 768 | 126 | 126 |

## 6.24. Aggregate Revenue Requirement for FY 2018-19 and FY 2019-20

***MSEDCL's Submission***

6.24.1. The Allocation Matrix for segregation of the ARR between the Wires and Supply Business has been specified in Regulation 68 of the MYT Regulations, 2015. Based on this, MSEDCL has projected the Wires and Supply ARRs for FY 2018-19 and FY 2019-20 as shown in the following Tables:

**Table 6-89: Aggregate Revenue Requirement for Wires Business, as submitted by MSEDCL (Rs. crore)**

| Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | MYT Order | MSEDCL Petition |
| Operation & Maintenance Expenses | 4,074 | 4,937 | 4,195 | 5,237 |
| Depreciation | 2,205 | 2,710 | 2,248 | 2,912 |
| Interest on Loan Capital | 2,107 | 1,382 | 1,958 | 1,180 |
| Interest on Working Capital | 144 | 135 | 143 | 134 |
| Interest on Deposits from Consumers and Distribution System Users | 76 | 63 | 80 | 70 |
| Provision for Bad and Doubtful Debts | 26 | 3 | 26 | 0 |
| Contribution to Contingency Reserves | 129 | - | 134 | 0 |
| **Total Revenue Expenditure** | **8,761** | **9,230** | **8,784** | **9,533** |
| Return on Equity Capital | 1,525 | 1,867 | 1,527 | 2,004 |
| **Aggregate Revenue Requirement** | **10,285** | **11,098** | **10,311** | **11,537** |
| Less: | | | | |
| Income from Wheeling Charges | 5 | 2 | 5 | 2 |
| Income from Open Access Charges | 648 | 641 | 674 | 675 |
| **Aggregate Revenue Requirement from Distribution Wires** | **9,632** | **10,455** | **9,631** | **10,861** |

**Table 6-90: Aggregate Revenue Requirement for Supply Business, as submitted by MSEDCL (Rs. crore)**

| Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | MYT Order | MSEDCL Petition |
| Power Purchase Expenses (including Inter-State Transmission Charges) | 50,817 | 52,394 | 53,334 | 54,741 |
| Operation & Maintenance Expenses | 2,194 | 2,659 | 2,259 | 2,820 |

| Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | MYT Order | MSEDCL Petition |
| Depreciation | 245 | 301 | 250 | 324 |
| Interest on Loan Capital | 234 | 154 | 218 | 131 |
| Interest on Working Capital | - | - | - | - |
| Interest on Consumer Security Deposit | 682 | 570 | 716 | 628 |
| Provision for bad and doubtful debts | 232 | 24 | 232 | - |
| Other Expenses | 16 | 68 | 17 | 71 |
| Intra-State Transmission Charges | 6,539 | 5,418 | 6,619 | 5,499 |
| Incentives/Discounts | 299 | 259 | 314 | 272 |
| Contribution to contingency reserves | 14 | - | 15 | - |
| Return on Equity Capital | 191 | 234 | 192 | 251 |
| Effect of sharing of gains/losses | (311) | | - | |
| Past Period Surplus | (1,032) | (1,032) | 853 | 853 |
| Impact of payment to MPECS in future years | 43 | 43 | 40 | 40 |
| **Total Revenue Expenditure** | **60,164** | **61,092** | **65,059** | **65,629** |
| Revenue from Sale of Power | 68,155 | 65,384 | 72,977 | 68,565 |
| Non-Tariff Income | 903 | 1,051 | 945 | 1,104 |
| Income from Additional Surcharge | 738 | 122 | 768 | 126 |
| **Total Revenue** | **69,796** | **66,557** | **74,690** | **69,794** |

**Table 6-91: Aggregate Revenue Requirement for Wires+Supply Business, as submitted by MSEDCL (Rs. crore)**

| Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | MYT Order | MSEDCL Petition |
| Power Purchase Expenses | 50,817 | 52,394 | 53,334 | 54,741 |
| Operation & Maintenance Expenses | 6,268 | 7,596 | 6,454 | 8,056 |
| Depreciation Expenses | 2,450 | 3,011 | 2,498 | 3,235 |
| Interest on Loan Capital | 2,341 | 1,536 | 2,176 | 1,311 |
| Interest on Working Capital | 144 | 135 | 143 | 134 |
| Interest on Consumers Security Deposit | 758 | 634 | 796 | 697 |
| Provision for bad and doubtful debts | 258 | 26 | 258 | - |
| Other Expenses | 16 | 68 | 17 | 71 |
| Intra-State Transmission Charges MSLDC charge | 6,539 | 5,418 | 6,619 | 5,499 |
| Incentives/Discounts | 299 | 259 | 314 | 272 |
| Contribution to Contingency Reserves | 143 | - | 149 | - |
| DSM expenses | - | 0 | - | - |
| Return on Equity Capital | 1,716 | 2,102 | 1,719 | 2,255 |
| Effect of sharing of gains/losses | (311) | - | - | - |
| Past Period Adjustment by Commission | (1,032) | (1,032) | 853 | 853 |

| Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | MYT Order | MSEDCL Petition |
| Add: Impact of payment to MPECS in future years | 43 | 43 | 40 | 40 |
| **Aggregate Revenue Requirement** | **70,449** | **72,190** | **75,369** | **77,166** |
| Revenue from Sale of Power | 68,155 | 65,384 | 72,977 | 68,565 |
| Non-Tariff Income | 903 | 1,051 | 945 | 1,104 |
| Income from Open Access Charges | 648 | 641 | 674 | 675 |
| Income from Wheeling Charges | 5 | 2 | 5 | 2 |
| Income from Additional Surcharge | 738 | 122 | 768 | 126 |
| **Total Revenue** | **70,449** | **67,200** | **75,369** | **70,471** |
| **Revenue Gap/(Surplus)** | **-** | **4,990** | **-** | **6,695** |

***Commission's Analysis and Ruling***

6.24.2. As elaborated in earlier paragraphs, the Commission has undertaken component-wise analysis of the ARRs for FY 2018-19 and FY 2019-20 in accordance with the Regulations, and has approved them as set out earlier. On that basis, the ARRs determined for each year are as shown in the following Tables:

**Table 6-92: Aggregate Revenue Requirement for Wires Business, as approved by Commission (Rs. crore)**

| Particulars | | FY 2018-19 | | | FY 2019-20 | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | Approved in this Order | MYT Order | MSEDCL Petition | Approved in this Order |
| Operation & Maintenance Expenses | 4,074 | 4,937 | 4,774 | 4,195 | 5,237 | 5,015 |
| Depreciation | 2,205 | 2,710 | 2,096 | 2,248 | 2,912 | 2,170 |
| Interest on Loan Capital | 2,107 | 1,382 | 1,433 | 1,958 | 1,180 | 1,324 |
| Interest on Working Capital | 144 | 135 | 124 | 143 | 134 | 127 |
| Interest on Deposits from Consumers and Distribution System Users | 76 | 63 | 74 | 80 | 70 | 82 |
| Provision for Bad and Doubtful Debts | 26 | 3 | 3 | 26 | 0 | 0 |
| Contribution to Contingency Reserves | 129 | 0 | 0 | 134 | 0 | 0 |
| **Total Revenue Expenditure** | **8,761** | **9,230** | **8,505** | **8,784** | **9,533** | **8,717** |
| Return on Equity Capital | 1,525 | 1,867 | 1,787 | 1,527 | 2,004 | 1,931 |
| **Aggregate Revenue Requirement** | **10,285** | **11,097** | **10,292** | **10,311** | **11,537** | **10,649** |
| Less: | | | | | | |
| Income from Wheeling Charges | 5 | 2 | 2 | 5 | 2 | 2 |
| Income from Open Access Charges | 648 | 641 | 641 | 674 | 675 | 675 |
| **Aggregate Revenue Requirement from Distribution Wires** | **9,632** | **10,454** | **9,649** | **9,631** | **10,861** | **9,972** |

**Table 6-93: Aggregate Revenue Requirement for Supply Business approved by the Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | Approved in this Order | MYT Order | MSEDCL Petition | Approved in this Order |
| Power Purchase Expenses (incl. Inter-State Transmission Charges) | 50,817 | 52,394 | 50,589 | 53,334 | 54,741 | 52,738 |
| Operation & Maintenance Expenses | 2,194 | 2,659 | 2,570 | 2,259 | 2,820 | 2,700 |
| Depreciation | 245 | 301 | 233 | 250 | 324 | 241 |
| Interest on Loan Capital | 234 | 154 | 159 | 218 | 131 | 147 |
| Interest on Working Capital | 0 | 0 | 0 | 0 | 0 | 0 |
| Interest on Deposits from Consumers and Distribution System Users | 682 | 570 | 667 | 716 | 628 | 734 |
| Provision for Bad and Doubtful Debts | 232 | 24 | 24 | 232 | 0 | 0 |
| Other Expenses | 16 | 68 | 66 | 17 | 71 | 70 |
| Intra-State Transmission Charges, incl. MSLDC Fees & Charges | 6,539 | 5,418 | 4,303 | 6,619 | 5,499 | 4,864 |
| Contribution to Contingency Reserves | 14 | 0 | 0 | 15 | 0 | 0 |
| Incentives/Discounts | 299 | 259 | 259 | 314 | 272 | 272 |
| **Total Revenue Expenditure** | **61,273** | **61,847** | **58,871** | **63,975** | **64,485** | **61,766** |
| Return on Equity Capital | 191 | 234 | 199 | 192 | 251 | 215 |
| **Aggregate Revenue Requirement** | **61,464** | **62,081** | **59,070** | **64,166** | **64,736** | **61,981** |
| Less: | | | | | | |
| Non-Tariff Income | 903 | 1,051 | 1,051 | 945 | 1,104 | 1,104 |
| Income from Additional Surcharge | 738 | 122 | 122 | 768 | 126 | 126 |
| **Aggregate Revenue Requirement from Retail Supply** | **59,822** | **60,908** | **57,896** | **62,453** | **63,506** | **60,751** |

**Table 6-94: Aggregate Revenue Requirement for Wires+Supply Business, as approved by Commission (Rs. crore)**

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | Approved in this Order | MYT Order | MSEDCL Petition | Approved in this Order |
| Power Purchase Expenses | 50,817 | 52,394 | 50,589 | 53,334 | 54,741 | 52,738 |
| Operation & Maintenance Expenses | 6,268 | 7,596 | 7,344 | 6,454 | 8,056 | 7,715 |
| Depreciation Expenses | 2,450 | 3,011 | 2,329 | 2,498 | 3,235 | 2,411 |
| Interest on Loan Capital | 2,341 | 1,536 | 1,593 | 2,176 | 1,311 | 1,471 |
| Interest on Working Capital | 144 | 135 | 124 | 143 | 134 | 127 |
| Interest on Deposits from Consumers and Distribution System Users | 758 | 633 | 741 | 796 | 697 | 816 |
| Provision for Bad and Doubtful Debts | 258 | 27 | 26 | 258 | 0 | 0 |

| Particulars | FY 2018-19 | | | FY 2019-20 | | |
|---|---|---|---|---|---|---|
| | MYT Order | MSEDCL Petition | Approved in this Order | MYT Order | MSEDCL Petition | Approved in this Order |
| Other Expenses | 16 | 68 | 66 | 17 | 71 | 70 |
| Intra-State Transmission Charges andMSLDC Charges | 6,539 | 5,418 | 4,303 | 6,619 | 5,499 | 4,864 |
| Incentives/Discounts | 299 | 259 | 259 | 314 | 272 | 272 |
| Contribution to Contingency Reserves | 143 | 0 | 0 | 149 | 0 | 0 |
| **Total Revenue Expenditure** | **70,033** | **71,077** | **67,376** | **72,758** | **74,018** | **70,484** |
| Return on Equity Capital | 1,716 | 2,101 | 1,986 | 1,719 | 2,255 | 2,146 |
| **Aggregate Revenue Requirement** | **71,749** | **73,178** | **69,362** | **74,477** | **76,273** | **72,629** |
| Effect of Provisional sharing of gains/losses | (311) | 0 | 0 | 0 | 0 | 0 |
| Impact of payment to MPECS in future years | 43 | 43 | 43 | 40 | 40 | 40 |
| Less: | | | | | | |
| Non-Tariff Income | 903 | 1,051 | 1,051 | 945 | 1,104 | 1,104 |
| Income from Wheeling Charges | 5 | 2 | 2 | 5 | 2 | 2 |
| Income from Open Access Charges | 648 | 641 | 641 | 674 | 675 | 675 |
| **Aggregate Revenue Requirement from Retail Tariff** | **69,924** | **71,527** | **67,711** | **72,892** | **74,533** | **70,889** |
| Revenue from Sale of Power | 68,155 | 65,384 | 65,639 | 72,977 | 68,565 | 69,086 |
| Income from Additional Surcharge | 738 | 122 | 122 | 768 | 126 | 126 |
| Past Period Adjustment by Commission | (1,032) | (1,032) | (1,032) | 853 | 853 | 853 |
| **Revenue Gap/(Surplus)** | **-** | **4,990** | **918** | **-** | **6,695** | **2,530** |

## 7. ADDITIONAL CLAIMS AND REVENUE GAP TO BE RECOVERED

In addition to the ARR determined above for the FY 2018-19 and FY 2019-20, various other claims have been made by MSEDCL relating to previous Orders. This Section analyses those claims and the relevant rulings, which need to be considered for determination of the consolidated Revenue Gap.

### 7.1. Impact of Review Order

***MSEDCL's Submission***

7.1.1. MSEDCL submitted that on 16th December 2016, it had filed a Petition seeking review of the MYT Order dated 3rd November, 2016 in Case no. 48 of 2016 (MERC Case No.176 of 2016). The Commission on 20th November 2017 issued Order on the said Review Petition. MSEDCL submitted that it has considered the impact of the said Review Petition under the appropriate heads of the expenditure for the period FY 15-

16. MSEDCL further submitted that the impact of Review Petition for FY 14-15 is considered in the following paragraphs.

## A. <u>No. of consumers considered for normative computation of O&M Expenses</u>

7.1.2. In the MYT Petition, MSEDCL had submitted 2,18,53,000 as the total number of consumers for FY 2014-15, excluding consumers in the Distribution Franchisee (DF) areas. However, MSEDCL submitted that the Commission considered this number as including DF and reduced it further, thereby resulting in reduction of consumers of DF twice. This has resulted in reduction of O&M expenses to that extent.

7.1.3. Accordingly, MSEDCL submitted that the impact of this issue works out to be Rs. 107 Crore for FY 2014-15 as shown in following table.

| Particulars | Unit | Approved | MSEDCL |
|---|---|---|---|
| Wire Business | | | |
| Norm | Rs lakh/ '000 Consumers | 7 | 7 |
| No. of Consumers | '000 Consumers | 20,920 | 21,824 |
| O&M Expenses corresponding to No. of Consumers | | 1,464 | 1,528 |
| Supply Business | | | |
| Norm | Rs lakh/ '000 Consumers | 4.85 | 4.85 |
| No. of Consumers | '000 Consumers | 20,920 | 21,824 |
| O&M Expenses corresponding to No. of Consumers | | 1,050 | 1,058 |
| **Total for Wire and Supply Business** | | **2,479** | **2,586** |
| **Difference to be claimed** | | | **107** |

7.1.4. MSEDCL hence, requested the Commission to allow it to recover the impact of Rs. 107 Crs towards number of consumers considered for normative computation of O&M Expenses for FY 2014-15.

### *Commission's Analysis and Ruling*

7.1.5. The Commission in the Order dated 20 November 2017 allowed the review on the above issue and ruled that MSEDCL may claim the impact on these account in its forthcoming MTR Petition.

7.1.6. Upon verification of the financial model underlying the impugned MYT Order, the Commission observed that the number of consumers considered for determining O&M expenses for FY 2014-15 was arrived at after deducting the number of consumers in DF areas from the total number of consumers (i.e. 2,18,53,000) submitted by

MSEDCL. As the figure of 2,18,53,000 is of consumer excluding the DF areas, deduction of DF consumers from this netted total of consumers led to double deduction of DF consumers.

7.1.7. Accordingly, the Commission has approved MSEDCL claim of Rs. 107 Crore in this Order.

**B. <u>A&G Expenses (LD refund to APML)</u>**

7.1.8. In the True-up of FY 2013-14, the Commission had considered the Liquidated Damages of Rs. 126 crore collected by MSEDCL as Non-Tariff Income. However, as per the Order dated 30 March 2015, the Liquidated Damages worked out to Rs. 17 crore. Accordingly, MSEDCL refunded the net amount of Rs. 109 Crs (Rs.126 – 109 Crs) crore in FY 2014-15 and accounted for it in A&G Expenses. Therefore, MSEDCL requested the Commission to allow the expense of Rs. 109 crore separately over and above the normative O&M expenses.

7.1.9. Accordingly, MSEDCL requested the Commission to allow it to recover the impact of Rs. 109 Crs towards refund of liquidated damages to APML for FY 14-15.

***Commission's Analysis and Ruling***

7.1.10. In impugned MYT Order, O&M expenses for FY 2014-15 have been determined by applying the norms (linked to number of consumers, energy wheeled/sales, GFA) specified in the MYT Regulations, 2011. While doing so, the amount of Rs. 109 crore refunded to APML was not allowed as additional expenses over and above the O&M expenses computed based on the norms. The Commission notes that, when MSEDCL initially recovered the Liquidated Damages of Rs. 126 crore from APML, this amount was considered as Non-Tariff income for FY 2013-14. Vide its Order dated 30 March, 2015 in Case No. 144 of 2014 (on a Petition of APML), the Commission ruled that the Liquidated Damages amount due to MSEDCL was only Rs. 17 crore and directed MSEDCL to refund the excess recovery of Rs. 109 crore to APML. Accordingly, MSEDCL has refunded this amount to APML. Thus, since the ARR in the MYT Order has instead been reduced by the original and larger amount of Rs. 126 crore, the refund of Rs.109 crore has to be taken into account as an expense in the ARR.

7.1.11. Hence, the claim to recover the total impact of Rs.109 Crores towards refund of liquidated damages to APML for FY 2014-15 is allowed by the Commission to that extent as requested by MSEDCL.

## 7.2. Impact of Disallowance of AG Sales for FY 2014-15

### *MSEDCL's Submission*

7.2.1. MSEDCL submitted that the Commission, in its MYT Order dated 3 November 2016 (Case No 48 of 2016) has disallowed 2,414 MUs in FY 2014-15 and 3,399 MUs in FY 2015-16 from the Agricultural Category sale submitted by MSEDCL in its Petition.

7.2.2. The Commission adopted methodology based on Feeder-based Energy accounting of AG separated Feeders and AG separated Feeders with SDT to determine the Circle-wise AG Index and determined the AG Sales for FY 14-15 and FY 15-16.

7.2.3. However, MSEDCL submitted that the AG consumption for a particular year depends on rainfall, no. of dry spells during monsoon. MSEDCL further submitted that the variables such as Rainfall, Agriculture Production, Horticulture Production, Productivity, Land under Cultivation, Dam Water levels and Ground Water Table level also help in understanding the level of electricity usage during a year.

7.2.4. Accordingly, in order to ascertain the AG sales of MSEDCL for FY 2014-15 and FY 2015-16, MSEDCL submitted that it has undertaken a detailed study regarding the AG Consumption trend during the last few years along with the indicators such as Rainfall, Agriculture Production, Horticulture Production, Productivity etc. MSEDCL has also used the well-established statistical tools for its study. Therefore, MSEDCL submitted that, from the study, it has proved that the claims of MSEDCL for its AG sales for FY 14-15 and FY 15-16 are not at all baseless and proved to be statistically in line with relationship of all the significant variables. Therefore, MSEDCL objected the disallowance of the AG sales for FY 2014-15 and FY 2015-16.

7.2.5. Considering the above submission, MSEDCL has calculated the sharing of efficiency losses for FY 2014-15 due to higher Distribution Losses based on actual AG sales as shown in following table.

| Particulars | Units | FY 2014-15 | | |
|---|---|---|---|---|
| | | Approved | MSEDCL | Difference |
| Normative Distribution Losses | % | 13.75% | 13.75% | |
| Actual Distribution Losses | % | 16.36% | 14.17% | |
| Actual energy input at the dist. Periphery | MUs | 110,458 | 110,458 | |
| Normative Loss | MUs | 15,188 | 15188 | |

| Particulars | Units | FY 2014-15 | | |
|---|---|---|---|---|
| | | Approved | MSEDCL | Difference |
| Normative sales (incl. OA & credit sales) | MUs | 95,270 | 95,270 | |
| Actual sales | MUs | | 94,805 | |
| Approved sales (Incl. OA & credit sales) | MUs | 92,391 | | |
| Additional/ (lower) sales due to higher Distribution Loss | MUs | 2,879 | (466) | |
| Average Billing Rate | Rs. p.u. | 5.81 | 5.81 | |
| Loss of Revenue on account of lower energy sales | Rs. Crs | 1,673 | (270) | |
| Efficiency Loss to be borne by the consumers | Rs. Crs | 558 | (90) | |
| **Efficiency Loss to be retained by MSEDCL** | **Rs. Crs** | **1,115** | **(180)** | **935** |

7.2.6. MSEDCL therefore requested the Commission to approve the AG Sales as claimed for FY 2014-15 and allow the recovery of financial impact of such disallowance to MSEDCL as shown in above table.

***Commission's Analysis and Ruling***

7.2.7. The difference in distribution loss claimed by MSEDCL and approved by MSEDCL is consequential to the disallowance of AG sales for FY 2014-15.

7.2.8. The Commission would undertake a detailed review of the methodology of determination of AG Sales based on the Study proposed to be carried out by the Commission through a third party agency appointed. The methodology finalised through this study shall form the basis for approval of AG sales during truing up exercise to be carried out at the end of the 3rd Control Period and for years FY 2014-15, to FY 2016-17. However, it is clarified that as the true-up of ARR for these years is already over (except for the assessment of AG sales and corresponding revision in the distribution loss thereof (if any)), the revision of revenue gap (over-recovery or under-recovery) shall be undertaken only in terms of sharing of distribution loss. For this purpose of sharing of gains/losses same methodology and principles as adopted through this MTR Order for respective years shall be followed for such adjustment.

## 7.3. Carrying Cost on previous Gap

***MSEDCL's Submission***

7.3.1. MSEDCL submitted that the Commission has been allowing carrying cost/holding cost on the revenue gap/surplus respectively. Hence, MSEDCL requested the Commission to allow the carrying cost on the previous gaps.

7.3.2. MSEDCL further submitted that the Hon'ble ATE, in its Judgment dated 8th April, 2015 in the matter of Reliance Infrastructure Limited Vs MERC and others, has ruled that the carrying cost should be calculated for the period from the middle of the financial year in which the revenue gap had occurred up to the middle of the financial year in which the recovery has been proposed. This is because the expenditure is incurred throughout the year and its recovery is also spread out throughout the year.

7.3.3. Additionally, MSEDCL submitted that the revenue gap is determined at the end of the financial year in which the expenditure is incurred. However, the under or over recovery is the resultant of the cost and revenue spread out throughout the year. Similarly, the revenue gap of the past year is recovered throughout the year in which its recovery is allowed. Therefore, the carrying cost on revenue gap as a result of true up for a financial year should be calculated from the mid of that year till the middle of the year in which such revenue gap is allowed to be recovered.

7.3.4. MSEDCL also submitted the details of carrying cost on the revenue gap of FY 2015-16 to FY 2017-18 along with the additional claims is given in following table. The Interest Rate is taken as per the Interest on Working Capital for the year.

**Table 7-1: Carrying Cost Computation on the revenue gap of FY 2015-16 to FY 2017-18 as submitted by MSEDCL (Rs. Cr.)**

| Particulars | Revenue Gap (Rs. Cr) | Period | | FY 15-16 | FY 16-17 | FY 17-18 | FY 18-19 | Total |
|---|---|---|---|---|---|---|---|---|
| **Interest rate (p.a)** | | **From** | **To** | 14.75% | 10.80% | 9.50% | 9.75% | |
| True Up Requirement for FY 15-16 | 5,546 | 1-10-2015 | 30-09-2018 | 409 | 599 | 527 | 270 | 1,805 |
| True Up Requirement for FY 16-17 | 6,704 | 1-10-2016 | 30-09-2018 | | 362 | 637 | 327 | 1,325 |
| Revenue Gap for FY 17-18 | 5,420 | 1-10-2017 | 30-09-2018 | | | 257 | 264 | 522 |
| Impact of Review Order for FY 14-15 | 216 | 1-10-2016 | 30-09-2018 | | 12 | 21 | 11 | 43 |
| Difference in Sharing of Efficiency Loss due to higher Dist. Losses FY 14-15 | 935 | 1-10-2016 | 30-09-2018 | | 50 | 89 | 46 | 185 |
| **Total** | **18,821** | | | **409** | **1,023** | **1,530** | **918** | **3,880** |

***Commission's Analysis and Ruling***

7.3.5. The principles for allowing carrying cost have been laid down by the ATE in its Judgment dated 8 April, 2015 in Appeal No. 160 of 2012. The interest should be calculated for the period from the middle of the financial year in which the Revenue Gap/(Surplus)arose up to the middle of the financial year in which the recovery has been proposed. Thus, for the Revenue Gap/(Surplus), the Commission has considered interest from the middle of the financial year in which the revenue gap had occurred up to the middle of FY 2018-19. The Commission has not considered carrying cost on the Revenue Gap/(surplus) of FY 2017-18, as the final true-up for that financial year is to be undertaken subsequently.

*7.3.6.* The Commission has computed the carrying cost for the yearly periods at the weighted average Base Rate prevailing during the concerned Year, plus 150 basis points in line with the Regulation 32 of the MYT Regulations, 2015. For working out the carrying cost to be allowed during the years under the 2$^{nd}$ control period, the Commission has considered an interest rate equivalent to rate of IoWC for respective years.

7.3.7. On that basis, the Commission has approved the holding cost worked out as shown in the Tables below:

**Table 7-2: Carrying Cost Computation on the revenue gap of FY 2015-16 to FY 2017-18 as approved by the Commission (Rs. Cr.)**

| Total Revenue gap | Rate | Period | Commission's Analysis |
|---|---|---|---|
| **Truing up Gap FY 2015-16** | | | **5,032** |
| Carrying cost for FY 2015-16 | 14.75% | Half Year | 371 |
| Carrying cost for FY 2016-17 | 10.79% | Full Year | 543 |
| Carrying cost for FY 2017-18 | 10.20% | Full Year | 513 |
| Carrying cost for FY 2018-19 | 9.45% | Half Year | 238 |
| **Carrying Cost for impact of FY 2015-16 True-up** | | | **1,665** |
| | | | |
| **Truing up Gap FY 2016-17** | | | **4,897** |
| Carrying cost for FY 2016-17 | 10.79% | Half Year | 264 |
| Carrying cost for FY 2017-18 | 10.20% | Full Year | 500 |
| Carrying cost for FY 2018-19 | 9.45% | Half Year | 231 |
| **Carrying Cost for impact of FY 2016-17 True-up** | | | **995** |
| | | | |
| **Impact of Review Order for FY 2014-15** | | | **216** |
| Carrying cost for FY 2014-15 | 14.75% | Half Year | 15.93 |
| Carrying cost for FY 2015-16 | 14.75% | Full Year | 31.86 |
| Carrying cost for FY 2016-17 | 10.79% | Full Year | 23.31 |

| Total Revenue gap | Rate | Period | Commission's Analysis |
|---|---|---|---|
| Carrying cost for FY 2017-18 | 10.20% | Full Year | 22.03 |
| Carrying cost for FY 2018-19 | 9.45% | Half Year | 10.21 |
| **Carrying Cost for impact of Review Order for FY 2014-15** | | | **103** |
| | | | |
| **Total Carrying Cost Impact** | | | **2,764** |

## 7.4. Impact of non-compliance of RPO as per Case 190 of 2014

### *MSEDCL's Submission*

7.4.1. MSEDCL submitted that the Commission in its MYT Tariff Order had disallowed the RPO compliance cost of Rs 260.33 Cr. to the extent of shortfall in RPO compliance by MSEDCL, as directed in Case 190 of 2014, on a provisional basis. The Commission had further ruled that the same would be reviewed at the time of Mid Term Review on the basis of the RPO compliance verification Order which would be passed by the Commission with regard to FY 2015-16.

7.4.2. In view of the same, MSEDCL submitted that the Commission, passed its order dated 27 March 2018 in Case No, 169 of 2016 regarding verification of compliance of Renewable Purchase Obligation targets by MSEDCL for FY 2015-16. As per the order, MSEDCL has fulfilled its cumulative non-solar RPO shortfall up to FY 2015-16 and the same is approved by the Commission. The Commission with regard to the stand-alone and cumulative shortfall against its Solar RPO targets in FY 2015-16 allowed to fulfil the same by the end of March, 2019. Accordingly, MSEDCL submitted that it is taking efforts to fulfil cumulative solar RPO shortfall up to FY 2015-16 by the end of March 2019 and in view of this, it has considered the amount of Rs. 260.33 Crore. as disallowed by the Commission as a part of revenue gap.

### *Commission's Analysis and Ruling*

7.4.3. The Commission had verified the compliance of RPO targets by MSEDCL for FY 2015-16 in its Order dated 27 March 2018 in Case No. 169 of 2016. The Commission concluded in the said Order that MSEDCL had not fulfilled its stand-alone Solar and Mini /Micro Hydro Power targets for FY 2015-16, with a shortfall of 157.95 MU and 18.08 MU, respectively. It also had a cumulative shortfall as at the end of FY 2015-16, including earlier years, of 1,359.75 MU and 68.57 MU, respectively. However, MSEDCL had fulfilled its stand-alone Non-Solar RPO target for 2015-16, with a surplus of 14.49 MU, and a cumulative surplus at the end of FY 2015-16, including earlier years, of 34.155 MU.

7.4.4. Further, the Commission has directed MSEDCL to constitute a notional 'RPO Regulatory Charges Fund', which shall be utilised to purchase Solar power and/or RECs to meet its shortfall. Therefore, considering the relevant Tariff proceedings and reviewing the reconciliation of FBSM bills with the Audited Accounts for RPO compliance, the Commission has allowed the amount of Rs. 260.33 Crore as a part of revenue gap.

### 7.5. Payment of Delayed Payment Surcharge to various wind generators

***MSEDCL's Submission***

7.5.1. MSEDCL submitted that various wind generators had filed petition before the Commission seeking directions against MSEDCL for recovery of outstanding dues as well as DPC under the Wind EPAs for the sale of power generated by their projects in Maharashtra. The Commission vide its order dated 16 March 2017 has directed MSEDCL to pay the principal amount & delayed payment charges expeditiously.

7.5.2. As per the directions of the Commission, MSEDCL has paid the principal and DPC to some of the wind generators as given below:

| S. No. | Name of wind generator | DPC Paid (Rs. Cr.) |
|---|---|---|
| 1 | Shah promoters & developers | 3.13 |
| 2 | Sun n Sand Hotel Private Limited | 1.37 |
| 3 | Ghatge Patil Industries | 0.84 |
| 4 | Bindu Vayu Urja Pvt. Ltd | 6.49 |
| | **Total** | **11.83** |

7.5.3. MSEDCL submitted that in the matter of payment of Late Payment Surcharge (LPS) in case no 162 of 2016, the Commission has directed MSEDCL to pay Rs.180 Crore towards LPS.

7.5.4. MSEDCL further submitted that in the matter of payment of delayed payment charges to Hindustan Zinc Limited, APTEL, in its order in case no. 75 of 2017 dated 24th April 2018, has ruled as follows:

*………………….. We are also of the opinion that the* ***issues raised by the Appellant before the State Commission do not pertain to the issue at hand and could be taken up during the Tariff Order /ARR proceedings before the State Commission*** *or through*

*a difficulty removal/norms relaxation petition as per the relevant regulations of the State Commission.* ***(Emphasis Added)***

7.5.5. Accordingly, MSEDCL approached before the Commission for consideration of passing through of DPC and interest thereof in ARR. The reasons are detailed below:

- MSEDCL being a revenue neutral regulated entity cannot raise additional funds and the external circumstances affects the cash flow. MSEDCL has no cash balances to pay such costs without including the same in ARR.
- The RoE is being utilized for compensation of less allowance in working capital.
- The DPC and interest thereof reflected in Annual Accounts is also not realised as most of the DPC is of agriculture consumers.

7.5.6. MSEDCL further submitted that various cases pertaining to delayed payment surcharge are still under jurisdiction at APTEL/ MERC. MSEDCL further submitted that various cases pertaining to delayed payment surcharge are still under jurisdiction at APTEL/ MERC.

***Commission's Analysis and Ruling***

7.5.7. As per the Regulation 36.4 of the MERC MYT Regulations, 2015 the DPC shall not be allowed as an expense for Distribution Licensee, the provision of the same is reproduced below:

> ***"36. Delayed Payment Charge and Interest on Delayed Payment—***
>
> *36.4 Such Delayed Payment Charge paid or payable by the Distribution Licensee to the Generating Company or the Transmission Licensee shall not be allowed as an expense for such Distribution Licensee."*

7.5.8. In view of the above, the Commission has not allow Delayed Payment Surcharge as claimed by MSEDCL.

## 7.6. Total Revenue Gap to be recovered

***MSEDCL's Submission***

7.6.1. Considering the revenue gap for the period FY 2015-16 to FY 2019-20 and impact of Review Order for FY 2014-15, the total revenue gap is summarized in following table

**Table 7-3: Total Revenue Gap to be Recovered**

| Particulars | Amount (Rs. Crore) |
|---|---|
| True Up Requirement for FY 2015-16 | 5,546 |
| True Up Requirement for FY 2016-17 | 6,704 |
| Revenue Gap for FY 2017-18 | 5,420 |
| Revenue Gap for FY 2018-19 | 4,990 |
| Revenue Gap for FY 2019-20 | 6,695 |
| Impact of Review Order for FY 2014-15 | 216 |
| Difference in Sharing of Efficiency Loss due to higher Dist. Losses FY 2014-15 | 935 |
| Carrying Cost - on Revenue Gaps for previous years till FY 17-18 | 3,880 |
| Claim of penalty levied by MERC for shortfall in RPO | 260 |
| **Total Revenue Gap** | **34,646** |

7.6.2. MSEDCL requested the Commission to allow the revenue gap along with the carrying cost.

***Commission's Analysis and Ruling***

7.6.3. Based on the analysis carried out in the above chapters, the Commission has approved the following net Revenue Gap for the period FY 2015-16 to FY 2019-20 and impact of Review Order for FY 2014-15.

**Table 7-4: Total Revenue Gap to be recovered, as approved by the Commission (Rs. Crore)**

| Particulars | MSEDCL (Rs. Crore) | Commission's Analysis (Rs. Crore) |
|---|---|---|
| True Up Requirement for FY 2015-16 | 5,546 | 5,032 |
| True Up Requirement for FY 2016-17 | 6,704 | 4,897 |
| Revenue Gap for FY 2017-18 | 5,420 | 5,308 |
| Revenue Gap for FY 2018-19 | 4,990 | 918 |
| Revenue Gap for FY 2019-20 | 6,695 | 2,530 |
| Impact of Review Order for FY 2014-15 | 216 | 216 |
| Difference in Sharing of Efficiency Loss due to higher Dist. Losses FY 2014-15 | 935 | - |

| Particulars | MSEDCL (Rs. Crore) | Commission's Analysis (Rs. Crore) |
|---|---|---|
| Carrying Cost - on Revenue Gaps for previous years till FY 17-18 | 3,880 | 2,764 |
| Claim of penalty levied by MERC for shortfall in RPO | 260 | 260 |
| Impact of MSPGCL Order | | (1,275) |
| **Total Revenue Gap** | **34,646** | **20,651** |

# 8. COMPLIANCE OF EARLIER DIRECTIVES

The status of compliance by MSEDCL of the directives given in the previous MYT Order is set out below.

## 8.1. Metering of un-metered Agriculture consumers

### *Directive*

8.1.1. The Commission directed MSEDCL to provide meters for all un-metered LT Agriculture pump sets with Connected Load above 7.5 HP within one year from issue of the Multi Year Tariff Order dated 3 November 2016 (Case No. 48 of 2016)

### *MSEDCL's Response*

*8.1.2.* MSEDCL vide its letter dated 27 October, 2017 informed the Commission that out of 74287 un-metered Agricultural consumer having load above 7.5 HP, it has metered 73720 consumers as on 19 December, 2016. During the course of time, 178 Agricultural consumers were disconnected. Balance, 567 un-metered Agricultural consumers will be metered by November, 2017.

### *Commission's Ruling*

*8.1.3.* The Commission has noted the compliance. MSEDCL should inform the Commission once balance 567 un-metered Agricultural consumer having load above 7.5 HP are metered.

## 8.2. Metering of un-metered Agriculture consumers

### *Directive*

8.2.1. The Commission directed MSEDCL to complete metering of all un-metered Agriculture consumers by the end of the 3rd Control Period, i.e. by March, 2020.

### *MSEDCL's Response*

8.2.2. MSEDCL submitted that, in order to complete the metering of the 15,89,123 unmetered Agricultural consumers, the Detailed Project Report (DPR) is prepared as below and proposed to be completed by Year 2020, in phase wise manner.

| Particular | Period | Qty. | Unit | Rate | Amount (Rs Crs) |
|---|---|---|---|---|---|
| | Up to Nov-2017 | 74,287 | No | Rs. 5,545 | Rs. 41.19 |

| Particular | Period | Qty. | Unit | Rate | Amount (Rs Crs) |
|---|---|---|---|---|---|
| **Installation of 3ϕ Energy meter to Unmetered Agricultural connection** | FY 2017-18 | 2,98,520 | No | Rs. 5,545 | Rs. 165.54 |
| | FY 2018-19 | 6,08,158 | No | Rs. 5,545 | Rs. 337.22 |
| | FY 2019-20 | 6,08,158 | No | Rs. 5,545 | Rs. 337.22 |
| | **Total** | **15,89,123** | **No** | **Rs. 5,545** | **Rs. 881.17** |

8.2.3. Total Scheme Cost is Rs. 881.17 Crore. In order to avoid additional financial burden on MSEDCL's Consumers through tariff hike, the Board of Directors in the 191st Board Meeting dated 09.02.2017 have resolved that request be made to the Government of Maharashtra to sanction grant for implementation of this scheme.

8.2.4. The request for grant of Rs. 171.07 Crores for Nagpur, Amravati, Sangali, Satara, Kolhapur and Ahmednagar Districts is already forwarded to the Government of Maharashtra, vide letter dated 7 November, 2016. However, MSEDCL is yet to receive grant from the Government.

***Commission's Ruling***

8.2.5. The Commission noted the submissions of MSEDCL. Section 55 (1) of the Electricity Act, 2003 mandates installation of correct energy meter to the consumer. Hence, in the past, the Commission has issued various directives to MSEDCL for metering of un-metered consumers. Although MSEDCL has not issuing any new connection without proper meter, progress of metering of un-metered Agricultural consumers is relatively slower. Although, provisions of Section 55(1) of the Electricity Act, 2003 cannot be overlooked, in meantime other alternatives such as group metering or feeder metering may help in energy accounting and billing of un-metered Agricultural consumers. Hence, as an interim measure, the Commission suggest that MSEDCL should come-up with group metering / feeder metering / DTC metering scheme for un-metered Agricultural consumers. MSEDCL should prepare and submit such group metering scheme for Commission's approval for its expeditious implementation. Further, the Commission will review metering status of un-metered Agricultural consumers in the subsequent tariff filing process.

## 8.3. Recovery of FAC

***Directive***

8.3.1. During the vetting of FAC submissions for FY 2015-16, the Commission observed that MSEDCL has levied FAC to its consumers in August, 2015 to March, 2016 on the basis of expected variation in power purchase costs. Since, this was against the basic principle of FAC and the provisions of the MYT Regulations, which require FAC to be computed post facto considering the actual variation in power purchase cost. On 29th July 2016, the Commission has directed MSEDCL to refund an over-recovered amount of Rs. 58.21 crore along-with interest through the FAC mechanism, and to desist from doing so in future.

***MSEDCL's Response***

8.3.2. MSEDCL has refunded FAC of Rs. 58.21 Crores along with interest of Rs. 3.51 Crores to the consumers in the billing for the month of September 2016.

***Commission's Ruling***

*8.3.3.* The Commission has noted the compliance.

## 8.4. Customer Outreach

***Directive***

8.4.1. Commission directed that MSEDCL should explore further expansion of its mobile applications to enhance other customer outreach and awareness activities.

***MSEDCL's Response***

8.4.2. **Mahavitaran Mobile App for Consumers:** MSEDCL submitted that Mahavitaran Consumer App enables consumers to avail Mahavitaran services at his/her fingertips. The app is simple and easy to use. It provides transparency in delivering services to consumers. App is available in English as well as Marathi Language.

8.4.3. MSEDCL submitted that following services are available through Mahavitaran Mobile App:

i. View and Pay MSEDCL Electricity bill though Net banking, Debit Card, Credit Card, Cash Cards, Mobile Wallets, etc. (4,25,000+ transactions per month)
ii. Register & Track Power Failure and Billing Complaints etc Apply for New Electricity Connection
iii. Submit Reading: Self meter reading by Consumer to avoid average billing if meter reading is not taken by meter reader.

iv. View Electricity Bill history and Payments history.
v. Manage multiple electricity connections from single account.
vi. Contact 24 x7 MSEDCL Call Center
vii. Feedback: Submit ratings of Mahavitaran services in the scale of 1 to 5 Update. Mobile Number & E-Mail IDs of consumer account.

8.4.4. MSEDCL further submitted that till date more than 29 Lakh users have downloaded Mahavitaran Mobile App

***Commission's Ruling***

*8.4.5.* The Commission has noted the compliance.

**8.5. Billing Related Process**

***Directive***

8.5.1. The Commission directed that MSEDCL should review its billing related processes, identify current limitations/gaps and areas for improvement and take corrective steps and monitor the implementation of necessary actions at the highest level.

***MSEDCL's Response***

8.5.2. MSEDCL submitted that, in order to review its billing related process to bring the improvement and take corrective steps and monitoring of implementation at the highest level, MSEDCL have already taken steps as mentioned below and the monitoring of implementation of the same is done at Corporate Office level.

**i. Meter Reading through Mobile App:**

Meter reading of LT consumers is taken through Mobile App for correctness of reading and uploading it directly to the server. The App also provides the GPS location of meter reader along with Date and time of reading by which check is maintained on the meter-reading agency.

**ii. 5% Check reading:**

This activity is introduced to keep the check on meter reading agency and improve normal billing percentage to issue correct and as per reading bills to the consumers to minimize consumer grievance.

**iii. PC 0 billing between 1$^{st}$ day to 5$^{th}$ day of every month:**

All HT & LT Industrial consumers in the State are billed during 1st day to 5th day of every month to have uniformity in billing of Industrial consumers and prompt realization of revenue.

**iv. 20kW and above consumer reading through MRI/AMR:**
All 20kW and above high consumption consumers are billed through MRI/AMR reading to avoid manual interference and issue correct bills to the consumers.

**v. Payment of Bills by producing SMS on Mobile phone:**
Facility for consumer is created for the ease of payment of bills by producing SMS generated by the system on his registered mobile.

**vi. PC Delay:**
Delays in processing and distribution of bills is minimized by arresting PC delays so that consumer gets his bill on time periodically every month.

***Commission's Ruling***

*8.5.3.* The Commission has noted the compliance.

**8.6. Feeder-based Metering with AMR facilities**

***Directive***

8.6.1. The Commission directed that MSEDCL should ensure that Feeder-based metering with Automated Metering Reading (AMR) facilities, at least for AG separated and SDT Feeders is operationalised within the next 18 months. The monthly data should be published on a quarterly basis on its website to ensure transparency and enable wider analysis.

***MSEDCL's Response***

8.6.2. MSEDCL submitted that, as on 20th June 2018, MSEDCL had completed 99% AMR for AG SDT feeders and 97% of AMR for AG Separated feeders.

8.6.3. Balance 102 AG feeders (SDT +AG separated) AMR will be completed within three months span.

8.6.4. After completion of balance 102 AG AMR, MSEDCL will publish AG AMR data on Quarterly basis as per the said directives.

8.6.5. Detailed status of AG AMR for MSEDCL is as below;

| AG feeders AMR (AG SDT +Pure AG) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Name | Total Feeders | | | AG AMR STATUS (As on 20.06.2018) | | | % age AG AMR done | | | Balance |
| | AG SDT feeders | AG Separated feeders | Total | AG SDT feeders AMR done | AG Separated feeders AMR done | Total | AG SDT AMR | AG Separated AMR | Total | Total |
| MSEDCL | 3053 | 1950 | 5003 | 3017 | 1884 | 4901 | 99% | 97% | 98% | 102 |

8.6.6. MSEDCL further submitted that Out of 4901 Agricultural feeders with AMR, only 1021 Feeders are active. For rest of the Feeders, there is communication linkage problem. MSEDCL is striving hard to establish the communication linkage by availing services of various service providers available in the respective areas.

***Commission's Ruling***

*8.6.7.* The Commission has noted MSEDCL's submission. MSEDCL shall endeavour to keep all the feeder AMR active and start uploading data on its website.

**8.7. MOD stack**

***Directive***

8.7.1. The Commission directed MSEDCL to submit data for each day of FY 2015-16, covering declared availability of its contracted capacity, the scheduled and actual drawal, and details of short-term procurement and surplus traded power. MSEDCL should also submit information regarding the non-scheduling or partial scheduling of contracted power falling in the MOD stack along with reasons. MSEDCL should submit this data within 3 months for further scrutiny. These details would be considered for the final truing-up of FY 2015-16.

***MSEDCL's Response***

8.7.2. MSEDCL vide letter dated 21$^{st}$ November 2017 has submitted daily data covering declared availability of contracted capacity and details of short-term procurement and surplus traded power. It has stated that data relating to actual drawl is maintained by MSLDC and due to Loadstar software issue as MSLDC, this data is not available.

***Commission's Ruling***

8.7.3. Due to non-availability of complete data, the Commission is not able to undertake detailed scrutiny of power purchase for FY 2015-16 to ascertain deviation from MoD principles, if any. However, the Commission notes that Average Power Purchase Cost for FY is Rs 43,626 Crore, which is lower than Rs 44,034 Crore. Therefore, the Commission allows actual power purchase cost for FY 2015-16

## 8.8. Depreciation

***Directive***

8.8.1. The Commission directed that MSEDCL to maintain in its Asset Register the details of useful life for each asset, and consider retirement of assets once it is over. The Commission shall consider the retirement of assets on actual basis at the time of the true-up of respective years.

***MSEDCL's Response***

8.8.2. MSEDCL submitted that, Asset Register contains details of useful life of Fixed Asset maintained through SAP systems. Fixed Assets are depreciated to the extent of 90% of the cost of the asset and carried at 10% of Gross value, at the end of its useful life in Asset Register.

***Commission's Ruling***

*8.8.3.* The Commission has noted the compliance.

## 8.9. Power Purchase and Planning

***Directive***

8.9.1. The Commission directed that MSEDCL should review its PPAs and explore options to optimize the impact of the fixed cost of the contracted capacity, including deferment in cases where no significant work execution has taken place so far.

***MSEDCL's Response***

8.9.2. MSEDCL submitted that, on the basis of 17$^{th}$ EPS projected demand data, MSEDCL had planned for capacity addition to meet projected demand. After getting the due approval from the Commission, MSEDCL has signed long term power purchase agreement with MSPGCL and Central Sector Power Plans through MoU route and with Independent

Power Producers (IPPs) as per Competitive Bidding guidelines. The present status of PPAs with different sources is as under:

| Sr. No. | Name of the Utility | MSPGCL | Central Sector | IPP | UMPP | Others | NCE Sources | Total |
|---|---|---|---|---|---|---|---|---|
| 1 | Effective PPA | 22997 | 6611.63 | 5465 | 1860 | 991 | 7659 | 45583.63 |
| 2 | Current effective Available Generation Capacity | 13427 | 5695* | 4785 | 760 | 491 | 6104 | 31262 |
| 3 | Upcoming Project | 0 | 658.63 | 0 | 0 | 0 | 807 | 1463 |
| 4 | Uncertain/ Deferred Project | 9570 | 0 | 680 | 1100 | 500 | 0 | 11850 |

*Including unallocated share by Ministry of Power, GoI.

8.9.3. Further, the upcoming Central Sector Thermal Power stations are as under:

| Sr. No | Name of Utility | Name of Upcoming Projects | Installed Capacity | MSEDCL Contracted Capacity | Date of PPA | Expected COD |
|---|---|---|---|---|---|---|
| 1 | NTPC | Lara Chhattisgarh | 1600 | 230.63 | 16.12.2010 | August 2018 |
| 2 | NTPC | Solapur STPS Stage II | 660 | 328 | 19.07.2010 | January 2019 |
| 3 | NTPC | Gadarwara STPS | 1600 | 50 | 05.01.2011 | August 2018 |
| 4 | NTPC | Khargone STPP (2X 660 MW) | 1320 | 50 | 05.01.2011 | March 2019 |
| 5 | **Total** | | **5180** | **658.63** | | |

8.9.4. **MSEDCL Efforts to reduce Fixed Cost:** MSEDCL has reviewed the projected demand vis-à-vis actual demand of last 5 years and accordingly has taken following effective steps to reduce the fixed cost burden:

**a) <u>MSPGCL's Uncertain/Deferred Power Projects</u>**

MSEDCL has signed an addendum PPA with MSPGCL on 24.12.2010 for capacity addition, out of which 9570 MW capacity is not commissioned till date --which are as under:

| Sr. No. | Name of Power Station | Generating Unit | Contracted Capacity | Remarks |
|---|---|---|---|---|
| **1** | Bhusawal TPS | Unit- 6 | 660 | |
| **2** | GTPS Uran | Unit- 9 & 10 | 1220 | |
| **3** | Paras TPS | Unit- 5 | 250 | |
| **4** | Nashik TPS | Unit- 6 | 660 | |
| **5** | Dondaicha TPS | Unit 1 to 5 | 3300 | |
| **6** | Latur JVC | Unit 1 & 2 | 1500 | Considering Gas based Power Project |
| **7** | Dhopave TPS | Unit 1 to 3 | 1980 | |
| | **Total** | | **9570** | |

8.9.5. The Commission started Suo-moto hearing (Case No. 42 of 2017) regarding above listed MSPGCL's projects and issued an order directing MSPGCL, to stop the work of capacity addition of the above said units. Further, MSPGCL has filed a review petition (Case No. 154 of 2018) for approval regarding execution work of Bhusawal TPS, Unit 6.

8.9.6. MSEDCL submitted that it's demand growth has not been increased as projected in the EPS data but the contracted generation capacity was added in phased manner and hence led MSEDCL in surplus contracted capacity temporarily.

**b) <u>Other IPP/UMPP Projects</u>**

8.9.7. Against other contracted capacity with IPPs (UMPP), about 2280 MW capacity has been deferred which is as follows:

| Sr. No. | Type | Name of Power Station | Date of PPA | Installed Capacity | Contracted Capacity/Share |
|---|---|---|---|---|---|
| 1 | IPP | Lanco Vidharbha LVTP | 04.08.2009 | 1 X 680 MW | 680 |
| 2 | UMPP | CAPL Krishna' nam, Andra Pradesh (Reliance) | 23.03.2007 | 6 X 660 MW | 800 |
| 3 | UMPP | Tilaiya, Jharkhand (Reliance) | 10.09.2008 | 6 X 660 MW | 300 |
| 4 | Others | Lanco Teesta | 29.08.2006 | 4X125 MW | 500 |

| Sr. No. | Type | Name of Power Station | Date of PPA | Installed Capacity | Contracted Capacity/Share |
|---|---|---|---|---|---|
| | Total | | | | 2280 |

8.9.8. MSEDCL submitted that, plants at Sr. No. 1, 2 & 4 have not taken off. They are under litigation at different stages. MSEDCL submitted that it will take appropriate steps regarding these projects after periodic review on case to case basis.

***Commission's Ruling***

*8.9.9.* The Commission in Case No. 42 of 2017 has initiated suo-moto review of upcoming power projects of MSPGCL. In its Order dated 27 March, 2018 in this matter, the Commission has made following observations and accordingly Order that:

*23. ……... MSEDCL has also stated that it needs more time to review the necessity of MSPGCL's upcoming Units listed in the PPA, after taking into consideration its other PPAs, RE additions and MSEDCL's demand projections. Hence, while closing the Case for orders, the Commission had concluded at the last hearing and recorded in its Daily Order dated 19 December, 2017 as follows:*

*"7. The Commission observed that, even if MSPGCL and MSEDCL agree to enter into an agreement under Section 62 of the EA, 2003, MSEDCL needs to show that the electricity proposed to be procured from MSPGCL is competitive as compared to other sources. …9. The Commission observed that MSPGCL's submission does not take into consideration factors such as projected RE generation, future demand-supply scenario in the State, MSEDCL's other PPAs, competitiveness of MSPGCL's Units, MSEDCL's RPO obligations, etc. and proceeds on the premise that new Units can be installed in place of old Units retired/being retired and the PPAs can be continued with certain amendments for the proposed new Units as well. 10. After due deliberation with MSEDCL, MSPGCL needs to carry out a realistic assessment considering the issues raised above, and approach the Commission afresh with its proposal and road-map…"*

*24. MSPGCL shall approach the Commission afresh accordingly. In the meantime, it shall not take any effective steps in pursuance of the Generation*

*Projects approved in the PPA or the other Projects now proposed in these proceedings which are at the planning stage or in respect of which contracts which had not been awarded at the time of the last MYT Order. Any capital expenditure incurred on these Projects shall be at MSPGCL's own risk and cost.*

## 8.10. Metering of un-metered Agriculture Consumers

***Directive***

8.10.1. MSEDCL has submitted a DPR for its Metering for in-principle approval. The DPR included the cost towards Capacitors, which is actually a cost to be borne by consumers and not by MSEDCL. Hence, the DPR was referred back to MSEDCL for revision and re-submission. MSEDCL has not reverted with a revised DPR so far. Nevertheless, in order to expedite implementation of metering of Agriculture consumers without further delay, capitalization for the scheme has been allowed in this Order on a provisional basis till FY 2017-18, in line with the investment proposed by MSEDCL in its original DPR but subject to the issue of bearing of expenditure on Capacitors flagged by the Commission. The Commission hence, directed MSEDCL that the position will be re-assessed at the time of the MTR considering the in-principle approval that may be granted to the DPR Scheme after its revision and re-submission by MSEDCL.

***MSEDCL's Response***

8.10.2. MSEDCL submitted that, as directed by the Commission, scheme of 'providing 3 phase energy meters to unmetered Agricultural consumers' was prepared eliminating the LT capacitors from the estimation and submitted for approval before the Board for Directors. The scheme consisted of providing 3 phase RF energy meters to existing unmetered AG consumers, divided in 3 phases. The Board of Directors accorded the approval and directed to get required funds from Government of Maharashtra considering the present financial condition of MSEDCL.

***Commission's Ruling***

*8.10.3.* The Commission has addressed this issue in para 8.1 and 8.2 above. .

## 8.11. Recovery of Arrears

***Directive***

8.11.1. The Commission directed that the MSEDCL should update the Commission further regarding the finalisation of arrears recovery from the terminated Distribution Franchisee (DF)s, as well as the status of the Payment Security mechanism in respect of ongoing DFs, at the time of the MTR.

***MSEDCL's Response***

8.11.2. MSEDCL submitted that, out of two terminated DF, M/s Crompton Greaves Ltd (Jalgaon Franchisee) do not have any outstanding arrears. Whereas Rs. 147.74 crore is outstanding with M/s GTL Ltd (Aurangabad Franchisee). M/s GTL has invoked arbitration clause in Franchisee Agreement. Both parties have finalised Arbitrator from their side and appointment of third Arbitrator is in process.

8.11.3. Amongst ongoing franchisee, M/s SNDL (Nagpur Franchisee) has outstanding of Rs. 109.84 crore whereas M/s Torrent Ltd. (Bhiwandi Franchisee) has no outstanding balance. Distribution Franchisee Agreement provides for Performance Guarantee, Standby Letter of Credit, ESCRO Account etc. as payment security mechanism. MSEDCL is ensuing that these payment security mechanism are remain operative throughout the Agreement period.

***Commission's Ruling***

*8.11.4.* The Commission has noted the compliance.

## 8.12. kVAh Metering

***Directive***

8.12.1. The Commission directed to explore the possibility of implementation of kVAh metering for selected categories. .

***MSEDCL's Response***

8.12.2. MSEDCL in present Petition has proposed kVAh billing and corresponding revision in incentives/penalties.

***Commission's Ruling***

*8.12.3.* In Section 9 of this Order, the Commission has ruled on MSEDCL's proposal of introducing kVAh billing.

## 8.13. Voltage-wise break-up of GFA

***Directive***

8.13.1. The Commission directed MSEDCL to submit the voltage-wise break-up of GFA and voltage-wise loss levels separately for all major voltage levels, i.e. EHV (above 33 kV), 33 kV, 22 kV, 11 kV and LT, in its MTR Petition to enable the Commission to determine the Wheeling Charges for all these voltage levels separately.

***MSEDCL's Response***

8.13.2. MSEDCL submitted that, as per the prevailing practice, the voltage-wise breakup of GFA is not maintained in Asset Register. Hence, it is difficult to segregate the old assets voltage-wise. But necessary arrangement is being made in the SAP system for maintaining voltage-wise breakup of new upcoming assets in future.

8.13.3. MSEDCL also submitted that, there is a genuine practical difficulty in identifying the voltage-wise loss levels. However, efforts are being taken up by MSEDCL in order to obtain the voltage-wise loss levels.

***Commission's Ruling***

*8.13.4.* In Section 9 of this Order, the Commission has determined separate Wheeling Charges for 33 kV, 22 kV, 11 kV and LT voltage level.

## 8.14. Coal Monitoring

***Directive***

8.14.1. The Commission in its Order in Case No. 111 of 2017 dated 02 May 2018 observed that it is necessary to put in place a system for monitoring not only the coal stocks available with the Generators and the shortage or otherwise of coal to be supplied by CIL, but also if indenting for coal has been undertaken diligently by the Generators in lean periods so that sufficient stock is available for periods of high power demand and /or when there is a shortfall in coal supply by CIL. Accordingly, the Commission directed MSEDCL that it should inform the Commission of the actual or proposed monitoring system.

***MSEDCL's Response***

8.14.2. MSEDCL has already formed a Coal Monitoring Committee looking after following functions:

i. Daily Coal Stock Report is gathered from all IPPs viz. APML, RIPL, GMR Warora and from MSPGCL.
ii. Monitoring of CEA website to keep record of Coal Stock Position of NTPC Stations
iii. Information of Transportation of coal such as availability Rakes
iv. Coal and Transportation Booking i.e. payments made by the Long term PPA generators
v. Correspondence with Govt. of Maharashtra for coal related issues faced by MSPGCL, IPPs and NTPC.
vi. Conducting periodic meeting with all IPPs, MSPGCL, NTPC to discuss power availability for the subsequent months and any issues related to coal supply, coal transport, etc.
vii. Whether indent placed as per FSA terms.
viii. Coal stock provision for the months in which there is maximum demand.

8.14.3. MSEDCL submitted that it has filed a Petition seeking review of the Commission's Order dated 02 May 2018 (Case No. 111 of 2017) wherein it has submitted various suggestions for monitoring availability of the Generation Station.

***Commission's Ruling***

The Commission has noted the Coal Stock monitoring mechanism setup by MSEDCL. Petition filed by MSEDCL seeking review of Order dated 2 May, 2018 has been registered as Case No. 186 of 2018. The Commission will decide the same as per regulatory provisions.

# 9. TARIFF PHILOSOPHY, TARIFF DESIGN AND CATEGORY-WISE TARIFFS FOR FY 2018-19 AND FY 2019-20

## 9.1. Overall Approach for Tariff Design

9.1.1. The Commission has kept in view the main objects of the Electricity Act, 2003 ("EA, 2003"), as set out in its Preamble, including the protection of the interest of consumers, the supply of electricity to all areas and rationalisation of tariffs. The EA, 2003 also enjoins the Commission to maintain a healthy balance between the interest of the Utilities and the reasonableness of the cost of power being supplied to consumers. The Commission has also kept in view the principles of tariff determination set out in Sections 61 and Section 62 of the EA, 2003, the Tariff Policy, 2016 and the MYT Regulations, 2015, and also taken into considerations MSEDCL's submissions as well as the Public responses in these MTR proceedings.

9.1.2. The provision of electricity is an essential driver for development and influences social and economic change. The Commission has endeavoured to ensure that, while industries and commerce promoted, it is not at the cost of other segments of society. The Commission has also sought to ensure regulatory consistency for all stakeholders and a reasonable return for the Licensee.

9.1.3. In its previous MYT Order in Case No. 48 of 2016, the Commission had undertaken tariff determination for MSEDCL for the 3rd Control Period i.e. from FY 2016-17 to FY 2019-20. In the present MTR Order, it has determined the revised tariff for FY 2018-19 and FY 2019-20, to be effective from 1 September, 2018. The relevant provisions for MYT Regulations, 2015 for retail tariff determination during MTR is stated as under:

> *"3. Scope of Regulations-*
>
> *3.1. The Commission shall determine the Aggregate Revenue Requirement, Tariff and Fees and Charges, including terms and conditions thereof, in accordance with these Regulations for all matters for which the Commission has jurisdiction under the Act, including the following :-*
>
> *… (iv) For Wheeling of electricity;*
>
> *(v) For Retail Supply of Electricity;*
>
> *… (vii) For Additional Surcharge on the charges for wheeling under Sub-Section (4) of Section 42 of the Act, in accordance with the Regulations of the*

*Commission governing Distribution Open Access and Orders of the Commission:…*

*4. Multi-Year Tariff Framework –*

*4.1. The Commission shall determine the Tariff and Fees and Charges for matters covered under clauses (i), (ii), (iii), (iv), (v), (vi), (vii), and (viii) of Regulation 3.1., under a Multi-Year Tariff Framework with effect from April, 2016*

*4.2. The Multi-Year Tariff framework shall be based on the following elements, for computation of Aggregate Revenue Requirement, and expected revenue from Tariff and Charges for Generating Companies, Transmission Licensees, Distribution Wires Business, Retail Supply Business, and Fees and Charges of MSLDC:-*

*(iii) Petition for Mid-term Review of operational and financial performance vis-à-vis the approved forecast for the first two years of the Control Period ; and revised forecast of Aggregate Revenue Requirement, expected revenue from existing Tariff, expected revenue gap, and proposed category-wise Tariffs for the third and fourth year of the Control Period, shall be submitted by the Generating Company or Licensee or MSLDC ;*

*(iv) True-up for the first year of the Control Period based on audited accounts and provisional true-up for the second year of the Control Period of operational and financial performance vis-à-vis the approved forecast for the respective years shall be submitted by the Generating Company or Licensee or MSLDC along with its Petition for Mid-term Review ;*

*(v) Determination of the revised Aggregate Revenue Requirement and Tariff or Fees and Charges for Generating Companies, Transmission Licensees, Distribution Wires Business, Retail Supply Business, and MSLDC by the Commission for the third and fourth year of the Control Period based on the Mid-term Review ;*

*(vi) True-up for the first year of the Control Period, provisional true-up for the second year of the Control Period of operational and financial performance vis-à-vis the approved forecast for the respective years, and categorization of variation in performance as those caused by factors within the control of the Petitioner (controllable factors) and by factors beyond its control (uncontrollable factors) by the Commission, along with the Mid-term Review ;*

*(vii) The mechanism for pass-through of approved gains or losses on account of uncontrollable factors as specified by the Commission in these Regulations ;*

*(viii) The mechanism for sharing of approved gains or losses arising out of controllable factors as specified by the Commission in these Regulations."*

9.1.4. Accordingly, the Commission has determined the ARR as well as the category wise tariff, Wheeling Charges, Cross-Subsidy Surcharge (CSS) and Additional Surcharge for FY 2018-19 and FY 2019-20.

## 9.2. Applicability of revised Tariffs

9.2.1. The revised tariff as per this Order shall be applicable from 1 September, 2018. Where the billing cycle of a consumer is different from the date of applicability of the revised tariffs, the tariffs should be applied for the consumption on pro rata basis. The bills for the respective periods as per the existing and revised tariffs shall be calculated based on the pro rata consumptions (units consumed during the respective periods arrived at on the basis of average unit consumption per day multiplied by the number of days in the respective periods falling under the billing cycle).

9.2.2. The Commission has determined the revenue from the revised tariff as if they were applicable for the entire year. Any shortfall or surplus in actual revenue vis-à-vis the approved revenue requirement will be true-up during Final True-up, as specified in the MYT Regulations, 2015.

## 9.3. Average Cost of Supply

9.3.1. Considering the Wires and Supply ARR for the Ensuing Years, past period adjustments and Energy Sales as approved by the Commission, the following Table summarises the approved ACoS of MSEDCL for FY 2018-19 and FY 2019-20.

**Table 9-1: Projected ARR and ACoS for FY 2018-19 and FY 2019-20, as approved by Commission (Rs. Crore)**

| Particulars | Unit | Reference | FY 2018-19 | FY 2019-20 | Total |
|---|---|---|---|---|---|
| Sales | MU | (a) | 1,03,713.93 | 1,08,369.24 | 2,12,083.17 |
| | | | | | |
| ARR | Rs Cr | (b) | 66,556.98 | 71,616.52 | 1,38,173.51 |
| Revenue at Existing Tariff | Rs Cr | (c) | 65,638.75 | 69,086.17 | 1,34,724.93 |
| Revenue Gap | Rs Cr | (d)=(b)-(c) | 918.23 | 2,530.35 | 3,448.58 |
| Past Period Revenue Gap | Rs Cr | (d1) | 17,201.93 | | |
| Cum. Revenue Gap for Control Period | Rs Cr | (d2) | 18,120.16 | **20,650.51** | |
| | | | | | |
| **ACoS** | **Rs/kWh** | **(e )= (b)/(a) x 10** | **6.42** | **6.61** | **6.52** |

## 9.4. Balancing of ABR and ACoS for Revenue Recovery over FY 19 & FY 20

9.4.1. From Table 9-1 it can be observed that the overall standalone Revenue Gap of Rs. 3,448.58 Crore for FY 2018-19 and FY 2019-20 is not evenly spread across for these two financial years. The revenue gap in FY 2018-19 is only Rs. 918.23 Crore, which, when combined with the net impact of the past period Rs. 17,202 Crore works out to an approved net Revenue Gap of Rs. 18,120 Crore for FY 2018-19. However, in the subsequent FY 2019-20, the approved cumulative Revenue Gaps amount to Rs. 20,651 Crore. This variation between these two financial years is also evident in the ACoS figures shown in Table 9-2 below.

9.4.2. However, while determining the tariff for FY 2018-19 and FY 2019-20, the Commission has to ensure that several objectives are met simultaneously, such as

a. Revising the tariff to meet the approved ARR for the respective years.

b. Smoothen the retail tariff revision trajectory to protect any consumer category from tariff shock, and

c. To meet the goal of gradual reduction in cross-subsidy levels.

9.4.3. Considering these different objectives harmoniously, the Commission has to strike balance between allowing recovery of approved ARR through tariff revision and also to ensure that no significant tariff shock is effected for any consumer category. This has necessitated spreading of overall Revenue Gap of Rs. 20,651 Crore more evenly for FY 2018-19 and FY 2019-20 and beyond as may be necessary, alongwith carrying cost at applicable interest rate. The Commission has reworked the modified ARR for revenue recovery and the modified ACoS thereof for each year, accordingly, as summarised below:

**Table 9-2: Modified ARR recovery and Modified ACoS for FY 2018-19 and FY 2019-20, as approved by Commission (Rs. Crore)**

| Particulars | Unit | Reference | FY 2018-19 | FY 2019-20 | Total |
|---|---|---|---|---|---|
| Sales | MU | (a) | 1,03,713.93 | 1,08,369.24 | 2,12,083.17 |
| | | | | | |
| ARR | Rs Cr | (b) | 66,556.98 | 71,616.52 | 1,38,173.51 |
| Revenue at Existing Tariff | Rs Cr | (c) | 65,638.75 | 69,086.17 | 1,34,724.93 |
| Revenue Gap | Rs Cr | (d)=(b)-(c) | 918.23 | 2,530.35 | 3,448.58 |
| | | | | | |

| Particulars | Unit | Reference | FY 2018-19 | FY 2019-20 | Total |
|---|---|---|---|---|---|
| **ACoS** | **Rs/kWh** | **(e )= (b)/(a) x 10** | **6.42** | **6.61** | **6.52** |
| ABR at Existing Tariff | Rs/kWh | (f )= (c)/(a) x 10 | 6.33 | 6.38 | 6.35 |
| PU Revenue Gap | Rs/kWh | (g )= (d)/(a) x 10 | 0.09 | 0.23 | 0.16 |
| | | | | | |
| Cum. Revenue Gap for past period (adjust) | Rs Cr | (h) | 8,600.97 | 8,600.97 | 17,201.93 |
| **Total ARR (to be recovered)** | Rs Cr | (i)=(b)+(h) | 75,157.95 | 80,217.49 | 1,55,375.44 |
| PU Adjustment of Cum. Revenue Gap of past period | Rs/unit | (j)=(h)/(a) x 10 | 0.83 | 0.79 | 0.81 |
| **Modified ACoS** | **Rs/kWh** | **(k)=(e) + (j)** | **7.25** | **7.40** | **7.33** |

9.4.4. **Regulatory Asset**: Based on the approved Revenue Gap of Rs. 20,651 Crore, the revenue gap realisation from the consumers within FY 2018-19 and FY 2019-20, will result in Tariff Shock all across the consumer categories. As per the Tariff Policy, 2016, during such scenario, there is a specific provision for the need of creating Regulatory Assets, in order to avoid such Tariff Shock in the ensuing years in which the revenue gaps is proposed to be realised. The relevant extract of the Tariff Policy, 2016 is as provided under:

*"8.2.2 The facility of a regulatory asset has been adopted by some Regulatory Commissions in the past to limit tariff impact in a particular year. This should be done only as a very rare exception in case of natural calamity or force majeure conditions and subject to the following:*

*a. Under business as usual conditions, no creation of Regulatory Assets shall be allowed;*

*b. Recovery of outstanding Regulatory Assets along with carrying cost of Regulatory Assets should be time bound and within a period not exceeding seven years. The State Commission may specify the trajectory for the same."*

9.4.5. The Commission observes that significant component of the past period revenue gap is mainly arising due to change in the sales/revenue mix than that approved under the MYT Order; due to market conditions and cannot be attributed to controllable factors with control of utility alone. Hence, the need has arisen to deal with the situation that mechanism in the form of Regulatory Asset needs to be created so as to ensure recovery of approved ARR, albeit in deferred manner. Detailed working for recovery of approved Regulatory Gap partly through revision of Tariff and partly through creation of Regulatory Asset has been outlined under following Table.:

**Table 9-3: Balancing of ACoS and ABR for FY 2018-19 and FY 2019-20 as approved by the Commission**

| Particulars | Unit | Reference | FY 2018-19 | FY 2019-20 | Total |
|---|---|---|---|---|---|
| Sales | MU | (a) | 1,03,713.93 | 1,08,369.24 | 2,12,083.17 |
| | | | | | |
| ARR | Rs Cr | (b) | 66,556.98 | 71,616.52 | 1,38,173.51 |
| Revenue at Existing Tariff | Rs Cr | (c) | 65,638.75 | 69,086.17 | 1,34,724.93 |
| Revenue Gap | Rs Cr | (d)=(b)-(c) | 918.23 | 2,530.35 | 3,448.58 |
| | | | | | |
| **ACoS** | **Rs/kWh** | **(e )= (b)/(a) x 10** | **6.42** | **6.61** | **6.52** |
| ABR at Existing Tariff | Rs/kWh | (f )= (c)/(a) x 10 | 6.33 | 6.38 | 6.35 |
| PU Revenue Gap | Rs/kWh | (g )= (d)/(a) x 10 | 0.09 | 0.23 | 0.16 |
| | | | | | |
| Cum. Revenue Gap for past period (adjust) | Rs Cr | (h) | 8,600.97 | 8,600.97 | 17,201.93 |
| **Total ARR (to be recovered)** | Rs Cr | (i)=(b)+(h) | 75,157.95 | 80,217.49 | 1,55,375.44 |
| PU Adjustment of Cum. Revenue Gap of past period | Rs/unit | (j)=(h)/(a) x 10 | 0.83 | 0.79 | 0.81 |
| **Modified ACoS** | **Rs/kWh** | **(k)=(e) + (j)** | **7.25** | **7.40** | **7.33** |
| | | | | | |
| Cum. Revenue Gap over Control Period | Rs Cr | (l) = (h)+(d) | 18,120.16 | 20,650.51 | |
| | | | | | |
| Regulatory Asset | Rs Cr | (m) | 6,191.23 | 6,191.23 | 12,382.45 |
| Incremental Revenue at Proposed Tariff | Rs Cr | (n) | 3,174.78 | 5,093.28 | 8,268.06 |
| Projected Revenue at Proposed Tariff | Rs Cr | (o)=(c)+(n) | 68,813.54 | 74,179.45 | 1,42,992.98 |
| | | | | | |
| PU Regulatory Asset | Rs/kWh | (p)=(m)/(a) x 10 | 0.60 | 0.57 | 0.58 |
| PU Increase in Tariff | Rs/kWh | (q)=(n)/(a) x 10 | 0.31 | 0.47 | 0.39 |
| PU Increase in Tariff required (incl. Regulatory Asset) | Rs/kWh | (r) = (p)+(q) | 0.90 | 1.04 | 0.97 |
| | | | | | |
| **PU ABR (revised)** | **Rs/kWh** | **(s)=(f) + (q)** | **6.63** | **6.85** | **6.74** |

9.4.6. Thus, it clear that, the impact for full recovery of revenue gap of Rs. 20,615 Crore through tariff would have amounted to higher tariff shock to the consumers. In view of above facts, the Commission has decided for creation of Regulatory Asset amounting to Rs 12,382 Crore (around 60% of total revenue gap of Rs 20,651 Crore) and allow deferred recovery of such Regulatory Asset over and beyond the 3rd Control Period alongwith carrying cost, as allowed under the MYT Regulations.

9.4.7. Further, the Commission observes that the carrying cost on Regulatory Asset shall be allowed at the applicable interest rate as per the provisions under MYT Regulations, however, the computation of the same has not be included for the purpose of revenue recovery under this MTR process; as the impact could be ascertained at the end of final true-up at the end of Control Period.

9.4.8. The Commission thus directs the MSEDCL, that at the time of next ARR/Tariff filling process for final true-up of ARR of 3rd Control Period , MSEDCL should submit its proposal for planned recovery of Regulatory Asset along with carrying cost for the ensuing years in the next Control Period, so that recovery of such Regulatory Asset and adjustment of on account of final true up of Revenue Gap/(Surplus) (if any) shall not exceed for the period of two years beyond the current Control Period (i.e. 3rd Control Period).

## 9.5. Key Considerations for Tariff Design

9.5.1. The Commission has ensured a gradual reduction in Cross-Subsidy levels across all the consumer categories for FY 2018-19 and FY 2019-20 as compared to the levels determined in the previous MYT Order in Case No. 48 of 2016 i.e. for the 3rd Control Period.

9.5.2. As against MSEDCL's projected Revenue Gap of Rs. 34,646 Crore for FY 2018-19 and FY 2019-20, which is approximately 23% of its projected cumulative ARR, the Commission has determined the total Revenue Gap of Rs. 20,651 Crore.

9.5.3. MSEDCL has proposed an increase in Fixed Charges and Energy Charges for various categories in order to bridge the Revenue Gap over the next two financial years of the Control Period i.e. FY 2018-19 and FY 2019-20. The increase in Energy Charges proposed by MSEDCL is approximately 15% for the projected years; however, the proposed increased in Fixed/Demand Charges for all the categories by MSEDCL was more than 109% between FY 2018-19 and FY 2019-20.

9.5.4. While determining the revised tariff, the Commission has to consider the revision in the Demand/Fixed Charge, Energy Charge and Wheeling Charge components and their overall ABR for any particular category while keeping in view the principle outlined in the Tariff Policy, 2016 and MYT Regulations, 2015, for the reduction in the Cross-Subsidy levels.

9.5.5. As elaborated in subsequent Sections, an upward revision in Demand/Fixed Charges is necessary since, at their existing level, the revenue recovery from these Charges cover less than 14% of the Fixed Cost of MSEDCL's operations. The Commission had approved a cumulative increase in Demand Charges/Fixed Charges of around 40-60% spread over two yearly periods of FY 2018-19 and FY 2019-20. The detailed rationale for revision in Demand/Fixed Charges is elaborated in Section 9.7. Out of the approved Revenue Gap of Rs. 20,651 Crore and upon creation of Regulatory Asset ,of Rs 12,382 Crore, the balance revenue recovery through proposed tariff revision amounts to Rs 8,268 Crore, , which is around 40% of total revenue gap. Such recovery through revision in Tariff will be met by way of revision in applicable Fixed/Demand Charges, Energy Charges, Wheeling Charges, for various consumer categories, as per Tariff design principles outlined under subsequent paragraphs of this Order.

9.5.6. The Commission has ensured recovery of the Wires ARR through Wheeling Charges, and the rationale for determination of voltage wise Wheeling Charges has been elaborated in Section 9.21. The approved revision in Wheeling Charges has been contributed towards meeting a part of Revenue Gap, thereby limiting the upward revision in the Energy (Supply) Charge component of the tariff. The Energy (Supply) Charges have been revised such that the resultant ABR for any particular category is not significantly increased to avoid any tariff shock, and the overall objective of cross-subsidy level of reduction is met.

9.5.7. As explained earlier in this Order, the Commission has determined the Agriculture Consumption Index, based on Circle-wise energy accounting data, for the purpose of energy accounting and assessment of the Distribution Loss level thereof. However, for the levy of tariff for un-metered Agriculture consumers, the classification of the Zones based consumptions norms has not been revised at this stage. Upon availability of the findings of Third party verification agency for ascertaining the Agriculture Consumption index for the past period and in line with revised methodology to be prescribed for the ensuring periods, and further analysis of the Circle-wise Feeder level data, the Commission may revise the Zone-based classification at the time of Final True-up.

9.5.8. In this context, some of the main tariff-related features of this Order are summarised below:

**A. Creation of new Tariff Category – Electric Vehicle under HT Level**

Petitioner in its submissions have suggested creation of new consumer category for Electric Vehicle (EV) Charging Stations, also during the public consultation process many of the stakeholders have supported the MSEDCL's suggestions.

The Commission is aware about initiatives taken by the Government at the State and Central level to encourage use of Electric Vehicles (EVs). One of the key challenges identified in this regard is lack of EV charging infrastructure. To address this challenge, number of steps are being taken up by the Central Government including plan for setting up charging stations for EVs. The Government of Maharashtra (GoM) has also recently notified the Maharashtra Electric Vehicle Policy, 2018, with an objective to promote sustainable transport system along with other policy objectives. One of the strategic driver for the Policy is promotion of creation of dedicated infrastructure for charging of EVs through subsidization of investment.

Accordingly, in order to promote EVs, the Commission has decided to create separate tariff category for EV Charging Stations. As a promotional measure, the Commission has considered lower Demand Charges for this Category and ensured that resultant Tariff is near the ACoS. Detail of applicability of this Category is provided in the Tariff Schedule for the respective years. It is further clarified that consumers are allowed to charge their own Electric Vehicle at their premises with the Tariff applicable to such premises falling under the respective consumer category.

**B. Levy of Commercial Category Tariff to Circus Troupes instead of Temporary Tariff**

The Commission has noted the request of the consumers raised through public hearing process and also the written submissions/objections as received. Temporary Supply – Others was applicable to the Circus Troupes in the past on account of its temporary nature of power requirement. However, the Commission notes that the Circus Industry is facing difficult times due to various reasons and it is a dying art, which needs to be encouraged to ensure its survival. Considering the above facts, the Commission has decided to apply tariff of 'Temporary Supply – Religious' to Circus Troupes.

**C. Tariff for Waste Management**

M.C.G.M. has submitted that as per the provisions of Section 61 of the MMC Act, 1881, it is the obligatory duty of M.C.G.M for scavenging and the removal and disposal of garbage, which is created in the city by the residential societies and commercial organisations. In addition, disposal of excrementitious and other filthy matters, and of all ashes, refuse and rubbish. For the said purpose various rules have been enacted by M.C.G.M. Further, under the Swatch Bharat Mission and as per the SWM Rules, 2016 the list of duties are enlisted for generator of waste as well as those of Urban Local Bodies for better management of Solid Waste.

M.C.G.M submitted that, the Waste Processing Units, such as bio-methanation plants etc., and the Waste Processing Facility machines generally run at 415 V three phase electric supply and are required to run for the least 12-18 hours of the day. The electricity supply companies provide electricity to such equipments/ machines at the commercial rates, which are 2-3 times the residential tariff.

In view of the above, MCGM has requested the Commission that, residential category Tariff to be charged for consumption of electricity by waste processing facilities such as organic waste converters, bio-methanation plants and vermi-composting units, etc. instead of tariff applicable to Commercial / Industrial consumers.

The Commission has examined the submissions of MCGM and notes that, in case of waste processing / disposal facility is present in a premise, exclusively for processing the waste generated within the premise, the tariff applicable to such premise / consumer is applicable to the waste disposal facility as well. However, considering the nature of services provided, as far as the waste disposal facilities operated by local self-government bodies are concerned, they may be categorised under LT III or HT IV (Public Water Works and Sewage Treatment Plants) and the waste disposal facilities operated by private operators may be categories under the LT X(B) or HT VI (B) – Public Services Others.

## D. Discount for Digital Payment

The Government of India has been encouraging digitization across various areas including monetary transactions. To support the initiatives of the Government, a discount of 0.25% of the monthly bill (excluding taxes and duties), subject to a cap of Rs. 500/- per month per bill, shall be provided to LT category consumers for payment of electricity bills through various modes of digital payment such as credit cards, debit cards, UPI, BHIM, internet banking, mobile banking, mobile wallets, etc.

## E. Mode for Communication

The Commission notes that the Hon’ble High Court of Judicature at Mumbai in its Judgement in the matter of Notice No. 1148 of 2015 in Execution Application No.

1196 of 2015 dated 11 June, 2018 has taken on record the WhatsApp message sent to serve notice on the Respondent and ruled that the same is sufficient for the purposes of service of Notice. The relevant portion of the Order is reproduced below:

*"2. The Claimants have also learnt that the Respondent resides at Nalasopara in a place which he seems to have taken on rent. The Claimant will furnish the particulars of address so that a warrant, if necessary can be issued against him.*
*3.* ***In the meantime, the present Notice is made absolute.***
*4.* ***A print-out of the WhatApp message is taken on record*** *and marked "N" for identification with today's date. The second print out is of the WhatsApp contact number of the Respondent. This shows his contact number. This is also taken on record and marked "N2" for identification with today's date.* ***This is sufficient for the purposes of service of Notice under Order XXI Rule 22****.*
*5.* ***By way of abandon caution and so that it remains a part of the record a scan of the print outs is attached to this order as well****."*

The Commission notes that serving of Notices to the consumers through digital medium such as WhatsApp message, email, SMS, etc. will not only be environmental friendly and save administrative cost but also free the human resources for other consumer service related works. Hence, the Commission has allowed the Distribution Licensee to issue notice under Section 56 of the Electricity Act, 2003, through digital mode such as WhatsApp message, email, SMS etc. The Licensee can also use the digital medium of communication for issuing other information to the consumers including information regarding billing, outstanding payment, outage details, etc. There is also a need to create awareness regarding this provision and accordingly, the consumer needs to be made aware of this by informing him through various means of communication including messages on bills and other publicity means.

9.5.9. While all consumers would like reduction in their tariffs, the reasonable costs incurred by the Licensee also have to be met and, irrespective of the number of consumer categories or sub-categories, the cross-subsidies have to be reduced gradually.

9.5.10. The comparison of the existing tariffs, the tariffs proposed by MSEDCL and the tariffs approved by the Commission, as well as percentage increase for each category and the cross subsidy trajectory for FY 2018-19 and FY 2019-20 are given in the Tables below:

**Table 9-4: Average Billing Rate (ABR) and Cross-Subsidy Trajectory as proposed by MSEDCL for FY 2018-19**

| Category | Projected Average Cost of Supply (Rs/kWh) | Average Billing Rate (Rs/kWh) | | Ratio of Average Billing Rate to Projected Average Cost of Supply (%) | | % increase / decrease in Cross-subsidy | % increase in tariff (%) |
|---|---|---|---|---|---|---|---|
| | | Existing Tariff | Proposed Tariff | Existing Tariff | Proposed Tariff | | |
| | | | | | | | |
| HT I (A): HT – Industry | 7.74 | 8.63 | 9.70 | 129% | 125% | -4% | 12% |
| HT I (B): HT - Industry (Seasonal) | | 11.73 | 11.82 | 175% | 153% | -22% | 1% |
| HT II: HT - Commercial | | 13.36 | 16.49 | 199% | 213% | 14% | 23% |
| HT III: HT - Railways/Metro/Monorail Traction | | 9.14 | 10.12 | 136% | 131% | -5% | 11% |
| HT IV: HT - Public Water Works (PWW) | | 6.99 | 8.18 | 104% | 106% | 2% | 17% |
| HT V: HT - Agriculture Pumps | | 4.37 | 5.46 | 65% | 70% | 5% | 25% |
| HT VI: HT - Group Housing Societies (Residential) | | 7.57 | 9.15 | 113% | 118% | 5% | 21% |
| HT VIII: HT - Temporary Supply | | 13.36 | 17.19 | 199% | 222% | 23% | 29% |
| HT IX : HT - Public Services Govt. | | 8.61 | 11.04 | 128% | 143% | 15% | 28% |
| HT IX : HT - Public Services Others | | 10.56 | 13.29 | 157% | 172% | 15% | 26% |
| **HT Total** | | **8.79** | **9.91** | **131%** | **128%** | **-3%** | **13%** |
| LT I: LT – Residential | | 6.56 | 7.97 | 98% | 103% | 5% | 21% |
| LT II: LT - Non-Residential | | 11.35 | 14.05 | 169% | 182% | 13% | 24% |
| LT III: LT - Public Water Works (PWW) | | 4.07 | 5.10 | 61% | 66% | 5% | 25% |
| LT IV: LT - Agriculture Unmetered | | 4.17 | 4.06 | 62% | 53% | -9% | -3% |
| LT IV: LT - Agriculture Metered | | 3.39 | 4.25 | 51% | 55% | 4% | 25% |
| LT V (A): LT - Industry - Power Looms | | 6.63 | 7.50 | 99% | 97% | -2% | 13% |
| LT V (B): LT - Industry – General | | 8.1 | 10.52 | 121% | 136% | 15% | 30% |
| LT VI: LT - Street Light | | 6 | 7.06 | 89% | 91% | 2% | 18% |
| LT VII: LT - Temporary Connection-Others | | 14.37 | 18.13 | 214% | 234% | 20% | 26% |
| LT VIII: LT - Advertisements and Hoardings | | 18.14 | 21.44 | 270% | 277% | 7% | 18% |
| LT IX: LT - Crematorium and Burial Grounds | | 4.75 | 5.98 | 71% | 77% | 6% | 26% |
| LT X- Public Services Govt. | | 8.55 | 10.65 | 127% | 138% | 11% | 25% |
| LT X- Public Services Others | | 8.95 | 10.95 | 133% | 141% | 8% | 22% |
| **LT Total** | | **5.87** | **6.85** | **87%** | **89%** | **2%** | **17%** |

**Table 9-5: ABR and Cross-Subsidy Trajectory, as proposed by MSEDCL for FY 2019-20**

| Category | Projected Average Cost of Supply (Rs/kWh) | Average Billing Rate (Rs/kWh) | | Ratio of Average Billing Rate to Projected Average Cost of Supply (%) | | % increase / decrease in Cross-subsidy | % increase in tariff (%) |
|---|---|---|---|---|---|---|---|
| | | Existing Tariff | Proposed Tariff | Existing Tariff | Proposed Tariff | | |
| HT I (A): HT - Industry | 7.71 | 8.67 | 9.64 | 128% | 125% | -3% | 11% |
| HT I (B): HT - Industry (Seasonal) | | 11.6 | 12.10 | 171% | 157% | -14% | 4% |
| HT II: HT - Commercial | | 13.41 | 16.45 | 197% | 213% | 16% | 23% |
| HT III: HT - Railways/Metro/Monorail Traction | | 9.03 | 10.10 | 133% | 131% | -2% | 12% |
| HT IV: HT - Public Water Works (PWW) | | 7.07 | 8.14 | 104% | 106% | 2% | 15% |
| HT V: HT - Agriculture | | 4.56 | 5.46 | 67% | 71% | 4% | 20% |
| HT VI: HT - Group Housing Societies (Residential) | | 7.55 | 9.23 | 111% | 120% | 9% | 22% |
| HT VIII: HT - Temporary Supply | | 13.42 | 17.15 | 198% | 222% | 24% | 28% |
| HT IX : HT - Public Services Govt. | | 8.49 | 10.70 | 125% | 139% | 14% | 26% |
| HT IX : HT - Public Services Others | | 10.4 | 13.11 | 153% | 170% | 17% | 26% |
| **HT Total** | | **8.84** | **9.84** | **130%** | **128%** | **-2%** | **11%** |
| LT I: LT - Residential | | 6.63 | 7.98 | 98% | 104% | 6% | 20% |
| LT II: LT - Non-Residential | | 11.4 | 13.88 | 168% | 180% | 12% | 22% |
| LT III: LT - Public Water Works (PWW) | | 4.23 | 5.08 | 62% | 66% | 4% | 20% |
| LT IV: LT - Agriculture Unmetered | | 4.36 | 4.15 | 64% | 54% | -10% | -5% |
| LT IV: LT - Agriculture Metered | | 3.53 | 4.22 | 52% | 55% | 3% | 20% |
| LT V (A): LT - Industry - Power Looms | | 6.66 | 7.48 | 98% | 97% | -1% | 12% |
| LT V (B): LT - Industry – General | | 8.14 | 10.54 | 120% | 137% | 17% | 29% |
| LT VI: LT - Street Light | | 6.04 | 7.02 | 89% | 91% | 2% | 16% |
| LT VII: LT - Temporary Connection-Others | | 14.46 | 18.22 | 213% | 236% | 23% | 26% |
| LT VIII: LT - Advertisements and Hoardings | | 18.23 | 20.89 | 268% | 271% | 3% | 15% |
| LT IX: LT - Crematorium and Burial Grounds | | 4.84 | 5.92 | 71% | 77% | 6% | 22% |
| LT X- Public Services Govt. | | 8.54 | 10.35 | 126% | 134% | 8% | 21% |
| LT X- Public Services Others | | 8.89 | 10.77 | 131% | 140% | 9% | 21% |
| **LT Total** | | **5.96** | **6.87** | **88%** | **89%** | **1%** | **15%** |

**Table 9-6: ABR and Cross Subsidy trajectory for FY 2018-19, as approved by Commission**

| Category | Projected Average Cost of Supply (Rs/kWh) | Average Billing Rate (Rs/kWh) | | Ratio of Average Billing Rate to Projected Average Cost of Supply (%) | | % increase / decrease in Cross-subsidy | % increase in Approved Tariff (MTR) over that Approved in MYT Order for FY 2018-19 (%) |
|---|---|---|---|---|---|---|---|
| | | Existing Tariff | Proposed Tariff | Existing Tariff | Proposed Tariff | | |
| HT I (A): HT - Industry | 7.25 | 8.04 | 8.20 | 129% | 113% | -16% | 2% |
| HT II: HT - Commercial | | 13.47 | 13.80 | 199% | 190% | -9% | 2% |
| HT III: HT - Railways/Metro/Monorail Traction | | 8.34 | 8.61 | 136% | 119% | -17% | 3% |
| HT IV: HT - Public Water Works (PWW) | | 6.91 | 7.28 | 104% | 100% | -4% | 5% |
| HT V: HT - Agriculture Pumps | | 3.91 | 4.12 | 65% | 57% | -8% | 5% |
| HT VI: HT - Group Housing Societies (Residential) | | 7.11 | 7.39 | 113% | 102% | -11% | 4% |
| HT VIII: HT - Temporary Supply | | 12.66 | 13.18 | 199% | 182% | -17% | 4% |
| HT IX : HT - Public Services Govt | | 8.76 | 9.26 | 128% | 128% | 0% | 6% |
| HT IX : HT - Public Services Others | | 10.61 | 11.29 | 157% | 156% | -1% | 6% |
| **HT Total** | | **8.17** | **8.37** | **131%** | **115%** | **-16%** | **2%** |
| LT I: LT - Residential | | 6.76 | 6.93 | 98% | 96% | -2% | 3% |
| LT II: LT - Non-Residential | | 11.02 | 11.49 | 169% | 159% | -10% | 4% |
| LT III: LT - Public Water Works (PWW) | | 3.86 | 4.12 | 61% | 57% | -4% | 7% |
| LT IV: LT - Agriculture Metered | | 3.35 | 3.55 | 51% | 49% | -2% | 6% |
| LT V (A): LT - Industry - Power Looms | | 6.70 | 6.94 | 99% | 96% | -3% | 4% |
| LT V (B): LT - Industry – General | | 7.83 | 8.25 | 121% | 114% | -7% | 5% |
| LT VI: LT - Street Light | | 5.98 | 6.39 | 89% | 88% | -1% | 7% |
| LT VIII: LT - Advertisements and Hoardings | | 17.30 | 17.81 | 270% | 246% | -24% | 3% |
| LT IX: LT - Crematorium and Burial Grounds | | 4.75 | 4.92 | 71% | 68% | -3% | 4% |
| LT X- Public Services Govt. | | 8.25 | 8.63 | 127% | 119% | -8% | 5% |

| Category | Projected Average Cost of Supply (Rs/kWh) | Average Billing Rate (Rs/kWh) | | Ratio of Average Billing Rate to Projected Average Cost of Supply (%) | | % increase / decrease in Cross-subsidy | % increase in Approved Tariff (MTR) over that Approved in MYT Order for FY 2018-19 (%) |
|---|---|---|---|---|---|---|---|
| | | Existing Tariff | Proposed Tariff | Existing Tariff | Proposed Tariff | | |
| LT X- Public Services Others | | 8.25 | 8.78 | 133% | 121% | -12% | 6% |
| **LT Total** | | **5.62** | **5.86** | **87%** | **81%** | **-6%** | **4%** |

**Table 9-7: ABR and Cross Subsidy Trajectory for FY 2019-20, as approved by Commission**

| Category | Projected Average Cost of Supply (Rs/kWh) | Average Billing Rate (Rs/kWh) | | Ratio of Average Billing Rate to Projected Average Cost of Supply (%) | | % increase / decrease in Cross-subsidy | % increase in Approved Tariff in MTR Order over FY 2018-19 (%) |
|---|---|---|---|---|---|---|---|
| | | Existing Tariff | Proposed Tariff | Existing Tariff | Proposed Tariff | | |
| HT I (A): HT - Industry | 7.40 | 8.01 | 8.42 | 128% | 114% | -14% | 3% |
| HT II: HT - Commercial | | 13.54 | 14.16 | 197% | 191% | -6% | 3% |
| HT III: HT - Railways/Metro/Monorail Traction | | 8.19 | 8.89 | 133% | 120% | -13% | 3% |
| HT IV: HT - Public Water Works (PWW) | | 7.01 | 7.49 | 104% | 101% | -3% | 3% |
| HT V: HT - Agriculture | | 4.12 | 4.27 | 67% | 58% | -9% | 4% |
| HT VI: HT - Group Housing Societies (Residential) | | 7.07 | 7.76 | 111% | 105% | -6% | 5% |
| HT VIII: HT - Temporary Supply | | 12.70 | 13.29 | 198% | 180% | -18% | 1% |
| HT IX : HT - Public Services Govt. | | 8.55 | 9.63 | 125% | 130% | 5% | 4% |
| HT IX : HT - Public Services Others | | 10.46 | 11.65 | 153% | 157% | 4% | 3% |
| **HT Total** | | **8.15** | **8.59** | **130%** | **116%** | **-14%** | **3%** |
| LT I: LT - Residential | | 6.89 | 7.22 | 98% | 98% | 0% | 4% |

| Category | Projected Average Cost of Supply (Rs/kWh) | Average Billing Rate (Rs/kWh) | | Ratio of Average Billing Rate to Projected Average Cost of Supply (%) | | % increase / decrease in Cross-subsidy | % increase in Approved Tariff in MTR Order over FY 2018-19 (%) |
|---|---|---|---|---|---|---|---|
| | | Existing Tariff | Proposed Tariff | Existing Tariff | Proposed Tariff | | |
| LT II: LT - Non-Residential | | 11.03 | 11.79 | 168% | 159% | -9% | 3% |
| LT III: LT - Public Water Works (PWW) | | 4.02 | 4.17 | 62% | 56% | -6% | 1% |
| LT IV: LT - Agriculture Metered | | 3.49 | 3.74 | 52% | 50% | -2% | 5% |
| LT V (A): LT - Industry - Power Looms | | 6.73 | 7.12 | 98% | 96% | -2% | 3% |
| LT V (B): LT - Industry – General | | 7.85 | 8.61 | 120% | 116% | -4% | 4% |
| LT VI: LT - Street Light | | 6.01 | 6.58 | 89% | 89% | 0% | 3% |
| LT VIII: LT - Advertisements and Hoardings | | 17.14 | 18.05 | 268% | 244% | -24% | 1% |
| LT IX: LT - Crematorium and Burial Grounds | | 4.81 | 5.04 | 71% | 68% | -3% | 3% |
| LT X- Public Services Govt. | | 8.13 | 8.71 | 126% | 118% | -8% | 1% |
| LT X- Public Services Others | | 8.13 | 8.85 | 131% | 120% | -11% | 1% |
| **LT Total** | | **5.73** | **6.12** | **88%** | **83%** | **-5%** | **4%** |

## 9.6. Tariff Philosophy proposed by MSEDCL and Commission's Rulings

9.6.1. MSEDCL has proposed certain changes in the Tariff Philosophy and Tariff Design in the Petition. MSEDCL's submissions and the Commission's rulings are set out in the following paragraphs.

## 9.7. Full Cost Recovery and Rationalisation of Fixed Cost

***MSEDCL's Submission***

9.7.1. Petitioner has proposed its MTR Petition based on full cost recovery of its revenue gap. Petitioner requested the Commission, to evolve a methodology during the remaining two years of the 3rd Control Period, in order to ensure the MSEDCL's financial viability and at the same time to protect the consumer interest.

9.7.2. Further, Petitioner stated that, the Commission in its first Tariff Order dated 5 May, 2000, while determining the Fixed Charge component of the Tariff, ruled that the recovery of the fixed costs should come from fixed charges. In the same Order, it was also observed that fixed charge component of tariff needs to be gradually increased in due course to cover the actual fixed costs incurred.

9.7.3. Petitioner highlighted that, the Commission in its June, 2008 Order, unilaterally decided to reduce the fixed charges applicable to different categories of consumers citing the reasons of reduced availability of power. In the said Order, the Commission observed that, *"...As and when sufficient power is available and contracted by the licensees, the fixed charges can again be increased and energy charges reduced correspondingly."*

9.7.4. Similarly, in the Tariff Order dated 12 September, 2010, the Commission had observed that, *"...once sufficient power is available and contracted by the licensees, the fixed/demand charges can again be increased, and energy charges reduced correspondingly."*

9.7.5. In view of above, Petitioner submitted that, during that period, the power supplied to certain categories of consumers was maintained without any reduced supply, and the said reduction was unwarranted.

9.7.6. In addition to it, Petitioner has further submitted that due to unavoidable circumstances in real time operations such as coal shortages, faults in generation units, transmission line tripping, etc. have led to load shedding for short duration. The load shedding is restored to safeguard the system from over-drawls and/or grid collapse; also, there is sufficient supply to match the consumer's demand. Hence, the fixed/demand charges should not be linked to the few instances of load shedding.

9.7.7. Petitioner stated that, at present, due to sufficient availability of power, there is no load shedding in the State. As per the directives of the Commission in its Tariff Order dated 26 June, 2015, the load shedding protocol is used only as load regulation measure in the shortage situation and not as a routine measure.

9.7.8. In addition to it, it was further submitted that, the classification if Fixed and Demand Charges has been estimated and proposed in line with the recommendations/discussions at various committees such as Committee on Simplification and Rationalisation of Tariff, Committee to examine issues relating to amendments in the Electricity Rules, 2005 as well as in Consultation Paper on issues pertaining to Open Access by Ministry of Power (MoP) issued in August, 2017.

9.7.9. In order to reflect the actual share of fixed cost in the revenue requirement of Distribution Licensees, there is a need to enhance recovery through fixed charges. The fixed charge shall be so set that it leads to recovery of 100% to the fixed costs of Distribution Licensees.

9.7.10. In view of above, the recent issued Draft Amendments to the Tariff Policy, 2018, Petitioner highlighted the following extract as under:

> *"In order to reflect the actual share of fixed cost in the revenue requirement of Distribution Licensee, there is need to enhance recovery through fixed charges. The fixed charge shall be set that it leads to recovery of at least 50% of the fixed costs in case of Domestic and Agriculture categories and at least 75% recovery of fixed costs in case of other categories progressively over next three years. The SERCs and JERCs shall lay down a roadmap to achieve the same."*

9.7.11. Petitioner has provided the computation of fixed costs recovery through fixed charges at the existing tariff as approved in the MYT Order dated 3 November, 2016 for FY 2017-18, as under:

**Table 9-8: Fixed Cost Recovery Computation, as submitted by MSEDCL (Rs. Crore)**

| Expense Particulars | Fixed Cost | Variable Cost | ARR for FY 2017-18 |
|---|---|---|---|
| Power Purchase Expenses | 18,875 | 29,083 | 47,958 |
| O&M Expenses | 6,088 | - | 6,088 |
| Depreciation Expenses | 2,308 | - | 2,308 |
| Interest on Long-Term Loan Capital | 2,269 | - | 2,269 |
| Interest on Working Capital and SD | 859 | - | 859 |
| Provision of Bad and Doubtful Debts | 258 | - | 258 |
| Other Expenses | 16 | - | 16 |
| Transmission Charges – Intra State | 5,824 | - | 5,824 |
| Contribution to Contingency Reserves | 129 | - | 129 |
| Incentives/Discounts | 285 | - | 285 |
| Return on Equity Capital | 1,687 | - | 1,687 |
| Non-Tariff Income | (864) | - | (864) |
| Income from Wheeling Charges | (5) | - | (5) |
| Income from Open Access Charges | (623) | - | (623) |
| Effect of Sharing of Gains/(Losses) | (635) | - | (635) |
| Impact of payment of MPECS in future years | 46 | - | 46 |
| Income from Additional Surcharge | (710) | - | (710) |
| **Total Cost for FY 2017-18** | **35,807**<br>**(55%)** | **29,083**<br>**(45%)** | **64,890** |
| **Revenue** | **Fixed** | **Variable** | **Total** |
| **Revenue from Sale of Power for FY 2017-18** | **9,376**<br>**(15%)** | **54,389**<br>**(85%)** | **63765** |

9.7.12. In view of above computation, Petitioner submitted that, it is evident that the fixed cost is approximately 55% of total cost for the year FY 2017-18, however the recovery through demand/fixed charges is much lower than 15% of the total revenue. Such, lower recovery from Fixed Charges is against the basic principles set out by the Commission.

9.7.13. Since, the fixed charges are inadequate; Petitioner had to borrow some amount to meet its working capital requirements to discharge its fixed liabilities. Increasing tariff by increasing energy charges instead of fixed/demand charges will result into steep fluctuations in revenue of MSEDCL with varying consumption over time, which also affects MSEDCL's ability to meet the fixed charges obligations.

9.7.14. MSEDCL further provided the comparison of Demand Charges for HT Industrial category consumers among the States, where such charges are relatively higher than those approved by the Commission for MSEDCL.

**Table 9-9: Comparison of Demand Charges of HT Industry Category, among the States, as submitted by MSEDCL (Rs/kVA/month)**

| FY 2017-18 | MSEDCL | M.P. | A.P. | Gujarat* | Himachal Pradesh | Chandigarh | Tamil Nadu |
|---|---|---|---|---|---|---|---|
| EHV Ind. | 250 | 620 | 475 | 475 | 425 | 375 | 350 |

**For > 1000 kVA*

9.7.15. The Commission in its MYT Order dated 3 November, 2016, had acknowledged the enhanced availability of MSEDCL is a strong case for increase in Fixed/Demand Charges, however, the Commission has approved the, marginal increase in fixed charges, but out of total cost recovery only 15% of the fixed cost was recovered through fixed charges.

9.7.16. Thus, in line with the view of the Commission, recommendations/discussions at various Committees and other references, specified in the above paragraphs, MSEDCL has proposed to increase the Fixed/Demand Charges for each consumer categories as a step towards balancing the fixed charges recovery with its fixed cost obligations.

***Commission's Analysis and Rulings***

9.7.17. In its Order in Case No. 72 of 2007, the Commission had reduced the Fixed/ Demand Charges on account of the high power deficit in MSEDCL's area. During the public consultation process, many consumers have opposed the proposal of MSEDCL to significant increase in Fixed/ Demand Charges. However, it should be noted that the approved expenses of MSEDCL need to be recovered through the tariff, by way of Fixed Charges or Energy Charges or both. Therefore, not increasing the Fixed Charges will result in a corresponding impact on Energy Charges. With regard to the levy of Fixed Charges / Demand Charges, the Commission has explained the rationale in previous Tariff Orders including MYT Order in Case 48 of 2016. This is also in accordance with the EA, 2003 and the Tariff Policy. As against the ratio of fixed cost to total ARR of 55%, the revenue recovery through Fixed/Demand charges is only around 13-14%.

9.7.18. Levy of Fixed Charges and Demand Charges does not result in any windfall gain to MSEDCL, since it is recovering only a part of its Fixed Costs through such Charges. With the increase now approved, revenue recovery from Fixed Charges is expected to increase to around 18% of the total revenue. As rationalization of Energy Charges has also been undertaken simultaneously, the rationalization of Fixed Charges is unlikely to result in a significant tariff burden for consumers. The Commission has noted the increase in the supply availability of MSEDCL and, therefore, there is now a strong case for increase in the Fixed / Demand Charges, which were substantially reduced from the Order in Case No. 72 of 2007. However, such increase in Fixed Charges should be gradual and not steep. Therefore, the Commission has approved a gradual increase in Fixed / Demand Charges over the 3rd Control Period, just sufficient to keep the revenue recovery from Fixed Charges at around 18% of the total revenue of MSEDCL. Besides, the current revision allowed in Fixed/Demand Charges through this Order is comparable or lower than similar Fixed/Demand Charges in other states.

## 9.8. Need for creation of New Consumer Categories

***MSEDCL's Submission***

**<u>Tariff Category for Charging Stations/Centres for Electric Vehicles</u>**

9.8.1. Petitioner has submitted that, in the present MYT Order dated 3 November, 2016, Hybrid Charging Centres/Stations are categorized under Commercial Category provided that, in case the consumer uses the electricity for charging his own Vehicle at his premises, the tariff is as per the parent category of supply.

9.8.2. In Maharashtra, MSEDCL is having 4000 locations, which includes various offices, 11 KV Switching stations as well as 33/11 KV Substations where sufficient Land is available. In order to serve the users of electric vehicles as well as for optimum utilisation of its assets, MSEDCL is planning to establish Charging Stations at suitable locations and it will be implemented once all the necessary approvals are obtained.

9.8.3. Further, considering very low penetration in Electrical/Hybrid vehicles, it is necessary to provide incentives in tariffs to kick start this nascent technology and boost environ-friendly electric and hybrid vehicles. In view of the above, Petitioner has proposed to create a separate category for the Electrical Charging Stations/Centres for Vehicles with following structure:

a. Energy Charge: Rs. 6 per Unit * (*Rs./kVAh or Rs./kWh as the case may be)

b. Fixed and Wheeling Charges as applicable to respective HT/LT Category.

c. However, in case individual consumer uses electricity for charging own Vehicle at his premises, applicable tariff will be as per parent category.

**Categorisation of Ordinance Factories and Ammunition Factories**

9.8.4. Petitioner has submitted that, at present the Defence establishments are categorized in Public Service category. However, The Defence of India Act,1971 in its Chapter IV Establishment is defined as under:

*"(i) any office, or*
*(ii) any place where any industry, trade, business or occupation is carried on; and includes any technical institution or training centre established, selected or approved by the central Government;"*

9.8.5. Several representations from the Ordinance factories and Ammunition factories have been submitted to MSEDCL, requesting to categorize them in Industrial category. Since, they are Industrial organization under Ordinance factory board, of Ministry of Defence and "Factory act 1948".

9.8.6. Petitioner has requested the Commission for providing its clarification and decide the applicability of Tariff for such establishments.

*Commission's Analysis and Rulings*

9.8.7. As elaborated under para 9.5.8 of this Order, in order to promote EVs, the Commission has decided to create separate tariff category for EV Charging Stations. As a promotional measure, the Commission has considered lower Demand Charges for this Category and ensured that resultant Tariff is near the ACoS. Detail of applicability of this Category is provided in the Tariff Schedule for the respective years. It is further clarified that consumers are allowed to charge their own Electric Vehicle at their premises with the Tariff applicable to such premises falling under the respective consumer category.

9.8.8. The Commission clarifies that the activities of the Ordinance Factories and Ammunition Factories of the Defence Establishments are akin to the manufacturing/industrial activity. Hence, it would be appropriate to classify such Ordinance/Ammunition Factories as industrial and Industrial Tariff, at appropriate voltage level shall be applicable in such cases. However, other Defence Establishments would continue to be categorised as Public Service and corresponding Tariff shall be applicable for other Defence Establishments excluding Ordinance/Ammunition Factories, Suitable clarification has been incorporated in the Tariff Schedule as such.

## 9.9. Rebate to existing HT Consumers

*MSEDCL's Submission*

9.9.1. Petitioner has submitted that, certain benefit shall also be provided to existing HT consumers for their incremental consumption. In order to boost power demand more particularly in industrial, commercial and service sectors. Petitioner has proposed, to provide incentive to the existing HT consumers for incremental consumption, with a rebate of Rs. 1 /kVAh in energy charges for additional consumption over a threshold limit. The consumers have to pay the fixed and wheeling charges as may be applicable to that category. The criterion for allowing the rebate shall be as under:

a. The rebate shall be allowed to consumers, who consume power above threshold limit. The total consumption in financial year (FY 2017-18) by the consumer shall be considered as baseline consumption.

b. In case, period is less than one year or there is reduction or extension in load/demand, baseline consumption shall be worked out on prorate basis;

c. The billing at the reduced rates after allowing the rebate shall be done once the consumer crosses the baseline consumption. e.g. if a consumer's total annual consumption in FY 2017-18 was 10,000 units, the consumer shall be entitled for a rebate of Rs. 1 /kVAh for consumption exceeding the baseline consumption of 10,000 units in FY 2018-19.

d. The rebate shall be for a period of two years i.e. remaining period of present Control Period.

e. The rebate shall be over and above the existing rebates.

f. The rebate shall be applicable to HT Industries, HT Commercial, and HT Railways/Metro/Mono.

g. Considering the proposed rebate of Rs. 1 /kVAh in energy charges and existing rebates, the effective energy charges shall not be lower than Rs. 4 /kVAh.

h. The amount of rebate shall be adjusted from the Consumer's bill after completion of the Financial Year.

i. The rebate shall be given only to those consumers who source their entire power from MSEDCL. This rebate shall not be applicable to partial open access consumers.

9.9.2. MSEDCL further submitted that, benefit of increased revenue as a result of increased consumption will get passed through in tariffs during future truing up. Hence, MSEDCL has requested the Commission to approve the above proposal and consider the said rebate as a part of ARR. However, MSEDCL at present has not considered any impact of such rebate. Overall impact of the rebate shall be taken care of in true up mechanism subsequently.

***Commission's Analysis and Rulings***

9.9.3. The Commission observes that encouraging incremental consumption by way of discount would be good idea, particularly, in surplus power scenario and contracted capacity is available in excess which otherwise would be subjected to backing down. However, implementation aspect of such proposals also needs to be carefully devised so as to ensure non-discrimination in implementation and upon ascertaining no significant loss of revenue. MSEDCL has proposed this discount to be applicable for the period of two years, i.e. remaining period of 3rd Control Period as such. Commission observes that introduction of such rebate for select consumer categories of existing consumers, particularly, during mid-term review process would not be proper. Hence, the Commission has not allowed the same at this stage, the same can be considered along with next filing for new Control Period with detailed scheme and cost/benefit analysis of such scheme with assessment of incremental consumption, estimate of eligible consumer/consumption base etc.

### 9.10. Bulk Consumption Rebate

***MSEDCL's Submission***

9.10.1. The Commission in its Tariff Order dated May 5, 2000 had a provision for Bulk Discount for Industrial Consumers consuming more than 1MUs. The relevant extract of the said Order is reproduced below:

> *"Bulk discount:*
> *If the consumption of any industrial consumer (availing TOD tariff and having no disputed arrears with the MSEB) exceeds one million units per month, the consumer will get a rebate of 1% on his energy bill (excluding fuel adjustment charge, demand charge, electricity duty, etc.) for every one million unit consumption above one million unit subject to a maximum of 5%."*

9.10.2. In order to incentivize, the higher consumption, Petitioner has proposed to provide Bulk Rebate to Consumers consuming more than 0.5MUs in following manner subject to a ceiling of 10% of energy charge of the parent category of consumer.

| | | | |
|---|---|---|---|
| 0.5 – 1 MUs | 1% | 6 – 7 MUs | 7% |
| 1 – 2 MUs | 2% | 7 – 8 MUs | 8% |
| 2 – 3 MUs | 3% | 8 – 9 MUs | 9% |
| 3 – 4 MUs | 4% | 9 – 10 MUs | 10% |
| 4 – 5 MUs | 5% | > 10 Mus | 10% |

| | | | |
|---|---|---|---|
| 5 – 6 MUs | 6% | | |

9.10.3. Petitioner has requested the Commission to approve the above proposal and consider the said rebate as a part of ARR in line with the other incentives such Prompt payment discount or Load Factor Incentive.

9.10.4. Considering the actual quantum for FY 2016-17 of the consumers having consumption of 0.5 MUs and above, MSEDCL has estimated the amount of rebate as Rs. 495 Crore in FY 2018-19 and Rs. 544 Crore in FY 2019-20. The same has been added in the Incentives shown in the Form Revenue from proposed Tariffs.

***Commission's Analysis and Rulings***

9.10.5. The Commission observes that during public hearing process, several objectors have raised objections and concerns that such differential bulk rebate design would be discriminatory and would only favour large consumers as against small/micro/mini scale consumers. Pass through such bulk discount through ARR of utility would further affect the other small/micro organisations. Hence, the Commission has not allowed such Bulk Consumption Rebate as proposed by MSEDCL.

**9.11. Sub-Category for New Consumers**

***MSEDCL's Submission***

9.11.1. In Order to accelerate the Industrial Growth considering the initiative "Make in Maharashtra", Petitioner has proposed, a separate category with lower energy charge to attract new HT consumers in Industrial, Commercial and Railways/Metro/Mono category.

9.11.2. Petitioner has submitted that such tariff shall be applicable for a period of three years from the date of connection for all Green Field Projects (new consumers) for which agreements for availing supply from MSEDCL are finalized during FY 2018-19. Further, to provide such tariff to green field projects only and not to change in ownership in existing connection. Petitioner further submitted that, the green field project shall be those projects where the consumer invests in the construction of new industry/plant from the ground up and there was no prior construction/structure on that particular land.

9.11.3. The Energy Charge for these new sub-categories to be Rs 1 p.u. less than the approved Energy Charge for the parent category. This will help in attracting new Industry to the state and increased Industries may have a cascading effect in further increasing MSEDCL's sale.

9.11.4. In view of the above, Petitioner has requested the Commission to approve the proposal for introduction of new sub-categories in HT Industry, HT Commercial and HT Railway/Mono/Metro Categories for New (Green field) Consumers with Energy Charge lower by Rs 1 /kVAh than the approved tariff for the same category for a period of three years.

9.11.5. Petitioner further, submitted that the data pertaining to this sub-category is not available presently and thus difficult to project, the no. of consumers, sales and revenue calculation for these categories has not been shown. The overall sales and revenue generated from such category shall be taken care of in true up mechanism.

***Commission's Analysis and Rulings***

9.11.6. The Commission opines that creating sub-category only for New Consumer, amounts to discrimination. Such distinction in treatment and applicability of tariff has not been envisaged under Section 62 (3) of the Electricity Act, 2003 and would amount to discrimination. Hence, the Commission has not allowed the same.

## 9.12. Sale to Consumers from SEZ Area

***MSEDCL's Submission***

9.12.1. The Electricity Act, 2003 advocates for the introduction of competition at the consumer end through open access regime and parallel license. The area of supply of various SEZs overlaps with that of MSEDCL. Hence, these SEZs are the second Licensees for those areas of supply, with MSEDCL being the Incumbent Licensee. Thus, MSEDCL can supply power to consumers situated in SEZ Areas through parallel license arrangement.

9.12.2. Petitioner highlighted that, the Hon'ble ATE in its Judgment in Appeal Nos. 229 and 246 of 2012 on 28 November, 2014 has provided principles with regard to the Network Roll-out by TPC-D in its License area overlapping with R-Infra-D. The Judgment has emphasized to promote consumer choice without duplication and wastage of national resources, and advocated for the use of the existing networks of both Licensees to the extent possible. Therefore, MSEDCL has decided for no duplication of network in SEZ area, in line with the principles laid down by Hon'ble ATE.

9.12.3. However, Petitioner has submitted that, if the consumer from SEZ area assures a period of 5 years with MSEDCL, it can develop the network for the consumers in SEZ areas, if required. Thus, MSEDCL has proposed that, the consumers in such SEZ areas whosoever approaches MSEDCL for availing supply would be treated at par with the new connections and will be provided the same benefits as proposed above by MSEDCL for the separate sub-category of New Connections.

***Commission's Analysis and Rulings***

9.12.4. The Commission observes that situation of Mumbai with parallel licensees using the each other network in the overlapping area of supply is an exception, enabled and under operation as per directions of Hon'ble Supreme Court and subsequent Judgments of APTEL in this matter. Hence, reliance of MSEDCL on these judgments for supply of power to consumers in SEZ area is not appropriate. Further, $6^{th}$ proviso to Section 14 of the Electricity Act, 2003 envisaged that parallel distribution license shall provide supply to the consumers in its area of supply by using its own distribution network.

9.12.5. As far as consumer within such SEZ area, if eligible to avail open access can always source its power requirement using open access from any other generator, trading company or another distribution license as such. Hence, the prayer of the Petitioner in this case cannot be allowed.

## 9.13. Change in Slabs for Commercial and Public Services (0-20 kW)

***MSEDCL's Submission***

9.13.1. Petitioner has submitted that, the MoP has constituted a Committee for simplification of tariff categories. One of the objectives of the said Committee was reduction in number of tariff categories. As a first step towards the reduction in number of tariff categories, Petitioner has proposed that, the consumption based sub-slabs in 0-20 kW for LT Commercial and LT Public Services may be done away with and just a single tariff category 0-20 kW may be allowed.

***Commission's Analysis and Rulings***

9.13.2. The Commission would like to highlight that, the same issue has already been dealt in the previous MYT Order in Case No. 48 of 2016. The Commission would again like to reiterate that, the LT Commercial Category and Public Services of 0 – 20 kW is further sub-dived into two slabs of '0-200 Units' and 'Above 200 Units'. The number of consumers, Connected Load, as well as energy sales between the two slabs is almost equally distributed. Further, there is a significant difference between the Energy Charge of the two distinguished slabs. Further, MSEDCL has not submitted any rationale for its proposal for restricting the slab. Thus, merging of slabs would severely affect around 8 Lakh consumers presently covered under this slab with monthly consumptions upto 200 units. Hence, the Commission has not accepted MSEDCL's proposal.

## 9.14. Clarification on HT I Seasonal Category

***MSEDCL's Submission***

9.14.1. Petitioner has submitted that, the consumers have requested to execute their option for the seasonal tariff as per the provision of MYT Order. As per the ruling 'the period of operation in a financial year should be limited upto 9 months', whereas, the request for the option are received in third and last quarter of the financial year. The field offices are facing difficulties to implement such requests.

9.14.2. Petitioner further highlighted that, such consumers are availing the undue benefit of both categories i.e. demand charges of seasonal tariff category and per unit rate of Industrial tariff category during a financial year. Some of the consumers are requesting for execution of their options for past period as per seasonal tariff. In addition, few consumers are requesting to apply the seasonal tariff category to their sugar factory units.

9.14.3. In view of the above, Petitioner has submitted that, the requests should be made in the first quarter of the financial year only and accordingly suggested the following in the Applicability for HT Seasonal Category:

> *"Applicable to Seasonal consumers, who are defined as those who normally work during a part of the year up to a maximum of 9 months, such as Cotton Ginning Factories, Cotton Seed Oil Mills, Cotton Pressing Factories, Salt Manufacturers, Khandsari/Jaggery Manufacturing Units* ***excluding sugar***

***factories,*** *or such other consumers who opt for a seasonal pattern of consumption, such that the electricity requirement is seasonal in nature.*
*Provided that the period of operation of in a financial year should be limited upto 9 months, and the category should be opted for by the consumer* ***within first quarter of the financial year'."***

***Commission's Analysis and Rulings***

9.14.4. The Commission finds the merit in the suggestion made by MSEDCL for treatment of the seasonal category and the same has been accepted as such. Necessary modification in the conditions have been incorporated at relevant places on the Tariff Schedule.

**9.15. Clarification on Public Water Works by MIDC**

***MSEDCL's Submission***

9.15.1. Petitioner has submitted that, MIDC water supply is treated at par with the Local bodies for general use i.e. Public Water Works (PWW) where the utilization of the water is for the public. However, it was observed that, some of the connections of MIDC (e.g. Water from MIDC Ratnagiri is used for M/s. JSW) are dedicated water supply of raw water for the purpose of generation of electricity by individual private power plant having commercial motive to generate and sale the power using the raw water. In addition, some connections are out of MIDC area and provide water supply to Industrial units out of MIDC area.

9.15.2. The Commission in its Order in Case no 51 of 2013 has ruled, *"The power plant is an industrial premise wherein fuel and water are used as an input to generate electricity"*. Thus, Petitioner has suggested that, such connection may be classified as per Industrial tariff and not as PWW.

***Commission's Analysis and Rulings***

9.15.3. The Commission noted that PWW category is mainly applicable to Public Water Supply Scheme and Sewage Treatment Plants and hence tariff applicable to this category is subsidised. The Commission never intended to put, electrical consumption for industrial activity under this category. Hence, the Commission ruled that MIDC's electricity connections from which water supply is provided only to the Industrial organisations be treated as Industrial Connection.

## 9.16. Industrial Tariff to Hotels in Notified Tourist Districts

### *MSEDCL's Submission*

9.16.1. As per the Maharashtra Tourism Policy, 2016, Tourism Department has declared Nagpur, Aurangabad and Sindhudurg districts as Tourism districts. GoM vide its letter No. Sankirna 2017/Pra.Ka.235/Urja-5 dated 7 March, 2018 has informed MSEDCL to approach the Commission for application of Industrial tariff to such hotels in the above said districts who have received 'Eligibility Certificates' from Maharashtra Tourism Development Corporation.

9.16.2. Accordingly, MSEDCL has proposed to charge Industrial Tariff to hotels in Nagpur, Aurangabad and Sindhudurg districts, having eligibility certificate issued by Maharashtra Tourism Development Corporation.

### *Commission's Analysis and Rulings*

9.16.3. The Commission would like to highlight that; the applicability of 'Hotels' has already been covered under 'LT II Commercial' and 'HT II: Commercial' Category in the Tariff Schedule.

9.16.4. Further, the Commission notes that, such distinction based on geography within a particular consumer class is not envisaged and cannot be used to re-classify into another consumer category. Petitioner has not referred to any GR notification as such but only referred to a letter. Hence, the Commission has not allowed the same.

## 9.17. Inclusion of R&D Lab for Animal Husbandry in AG – Others Category

### *MSEDCL's Submission*

9.17.1. National Dairy Development board (NDDB) is an autonomous institution under Ministry of Agriculture, GOI. NDDB has set up state of art semen station in Rahuri where 300 Adult bulls are maintained for producing annually 10 million semen doses.

9.17.2. Since R&D Labs for Animal Husbandry are not specifically included in the tariff schedule, Petitioner has suggested that, being helpful to Agriculture, the R&D Labs for Animal Husbandry may be included in the AG-Others category at respective voltage level.

### *Commission's Analysis and Rulings*

9.17.3. The Commission would like to highlight that; the applicability of Standalone Research and Development units has already been covered under 'LT II Commercial' and 'HT II: Commercial' Category in the Tariff Schedule, which covers all class of Labs or Units.

9.17.4. Further, the Commission observes that, R&D Labs for Animal Husbandry is a Commercial activity and the same is rightly covered under the Commercial Category as per the respective connection levels. Thus, the Commission is of the view that, at present there is no such requirement of creating a specific consumer category for R&D Units for Animal Husbandry until there is any significant consumer growth and volume, which is identifiable to be categorised as a separate consumer category.

## 9.18. Voltage-wise Cost of Supply

### *MSEDCL's Submission*

9.18.1. Hon'ble ATE in its Judgment dated 24 March, 2015 highlighted need to segregate costs incurred by Licensees to serve a consumer on particular voltage level. Further, the Commission vide its MYT Order in Case No 48 of 2016 on 3 November 2016 observed that, it is necessary to undertake detailed analysis of Voltage-wise Cost of Supply (VCoS) and directed MSEDCL to submit the outcome of its VCoS study at the time of the Mid Term Review. Accordingly MSEDCL carried out the VCoS study, methodology is elaborated below:

9.18.2. There are two broad approaches for ascertainment of VCoS i.e. Embedded Cost approach and Simplified approach. The 'Embedded cost' method identifies and assigns the historical/ accounting costs that make up a utility's Annual Revenue Requirement (ARR) to voltage/consumer categories based on various allocation factors. Further, taking into account the problems faced by State Commissions, the Hon'ble ATE suggested that in absence of data, it would be adequate to determine the VCoS taking into account the major cost element, which would be applicable to all the categories of consumers connected to the same voltage level.

9.18.3. A systematic approach to the VCoS study involves three steps i.e. functionalisation, classification and allocation of costs to various voltage levels.

**Functionalisation of Costs:** The first stage of a VCoS study involves functionalisation of all the costs of the utility to various functions such as power purchase and distribution (termed as "functionalisation"). The power purchase costs include the costs of transmission of power from the generating stations to the delivery point as per Bulk Supply Agreement.

**<u>Classification of Costs</u>:** The costs so functionalized are further classified into 3 categories such as demand, energy and customer/service related.

a. Demand Cost: The peak demand has to be met by the capacity of generation, transmission and distribution. Hence, the cost related to capacity creation is termed as demand related cost.

b. Energy Cost: Energy related costs depend on the quantum of consumption of the users. Such costs are generally termed as variable cost and include costs such as variable cost of generation, interest on working capital etc.

c. Customer Cost: Customer related costs are directly related to the services provided to customers. Though fixed in nature, these costs are associated with the functions of metering, service connection and other customer related activities.

**<u>Allocation of Costs</u>**: The functionalized and classified costs are then allocated to various voltage levels of the utility based on allocation factors derived from demand, consumption of energy and number of customers. Such allocation arrives at the VCoS. The classified costs may be allocated on the basis on time differentiated allocation factors. The energy usage and a measure of demand (peak, average etc.) within such periods form the basis for allocation of costs.

9.18.4. In this study various allocation factors have been devised based following:

a. Demand related Costs: These costs are worked based on percentage contribution of Non-coincident demand, Average demand and excess demand in its respective demand component.

b. Energy Related Costs: These allocation factors are derived based on ratio of energy input at particular voltage level.(Energy input= Energy sales + Losses).

c. Customer related Costs: to address the variance in service cost across voltage levels, Voltage level wise weightages have been derived to determine allocation factors for customer related costs. The weightages are a function of two parameters- sales per customer and load per customer. Costs are allocated as per derived weightages.

9.18.5. The allocation matrix is presented as below:

**Table 9-10: Allocation Matrix as submitted by MSEDCL**

| Voltage Levels | Allocation for demand related costs (%) | Allocation for energy related costs (%) | Allocation for customer related Costs (%) |
|---|---|---|---|
| EHV (66 kV & above) | 6% | 5% | 0.22% |
| HT Level (33 kV) | 9% | 8% | 1.29% |
| HT Level (22/ or 11 kV) | 18% | 16% | 16.19% |
| LT Level | 67% | 70% | 82.31% |
| **MSEDCL Total** | **100%** | **100%** | **100%** |

9.18.6. Based on above allocation matrix the VCoS for FY 2015-16 are derived as under:

**Table 9-11: VCoS for FY 2015-16, as submitted by MSEDCL**

| Voltage Levels | Sales (MUs) | Allocation (%) | Demand Related | Demand (Rs/Unit) | Allocation (%) | Energy Related | Energy (Rs/Unit) | Allocation (%) | Consumer Related | Consumer (Rs/Unit) | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EHV (66 kV & above) | 6017 | 6% | 1616.40 | 2.69 | 5% | 1576.89 | 2.62 | 0.22% | 1.79 | 0.0030 | 5.31 |
| HT Level (33 kV) | 7860 | 9% | 2266.95 | 2.88 | 8% | 2191.51 | 2.79 | 1.29% | 10.48 | 0.0133 | 5.69 |
| HT Level (22/ or 11 kV) | 16404 | 18% | 4731.15 | 2.88 | 16% | 4724.49 | 2.88 | 16.19% | 131.86 | 0.0804 | 5.84 |
| LT Level | 61736 | 67% | 17805.71 | 2.88 | 70% | 20176.52 | 3.27 | 82.31% | 670.59 | 0.1086 | 6.26 |
| **MSEDCL Total** | **92017** | **100%** | **26420.22** | **2.87** | **100%** | **28720.25** | **3.12** | **100%** | **814.72** | **0.0885** | **6.08** |

9.18.7. Based on the above approach, MSEDCL has calculated the stand alone VCoS for FY 2018-19 and FY 2019-20 is as shown in the table as under:

**Table 9-12: VCoS for FY 2018-19 and FY 2019-20, as submitted by MSEDCL**

| Voltage Level | FY 2018-19 | FY 2019-20 |
|---|---|---|
| EHV (66 kV & above) | 5.52 | 5.65 |
| HT Level (33 kV) | 6.53 | 6.82 |
| HT Level (22/ or 11 kV) | 6.57 | 6.89 |
| LT Level | 6.91 | 7.10 |
| **MSEDCL Total** | **6.71** | **6.93** |

***Commission's Analysis and Rulings***

9.18.8. In the previous MYT Order in Case No. 48 of 2016, in absence of scientific data for ascertaining the voltage-wise loss levels, the Commission had worked out the VCoS based on the assumptions and methodology adopted by MSEDCL as against the ARR components approved by the Commission in the said Order. As regards, the present submission, MSEDCL has worked out VCoS by adopting Embedded Cost approach, the ACoS so derived is also based on the certain assumptions considered by MSEDCL, as they do not maintain any voltage-wise costs details.

9.18.9. The Commission had examined the methodology adopted by MSEDCL, and being similar the previous case in the MYT Order, in absence of required data for establishing voltage wise loss levels, the Commission has adopted the same methodology and similar assumptions considered by MSEDCL. The voltage wise total cost is as shown under, based on the approved sales and ARR components for FY 2018-19 and FY 2019-20.

**Table 9-13: Category wise Total Cost of Service for FY 2018-19, considered by Commission (Rs. Crore)**

| Voltage levels | Sales (MU) | Allocation % | Demand Related | Demand (Rs/Unit) | Allocation % | Energy Related | Energy (Rs/unit) | Allocation % | Customer Related | Customer (Rs/Unit) | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EHV (66 kV & above) | 8,116 | 0.07 | 2,415 | 2.98 | 0.07 | 2,094 | 2.58 | 0.00 | 5 | 0.01 | 5.56 |
| HT Level (33 kV) | 9,403 | 0.10 | 3,448 | 3.67 | 0.08 | 2,702 | 2.87 | 0.01 | 27 | 0.03 | 6.57 |
| HT Level (22&/or 11 kV) | 17,959 | 0.17 | 6,163 | 3.43 | 0.17 | 5,378 | 2.99 | 0.11 | 273 | 0.15 | 6.58 |
| LT Level | 68,236 | 0.67 | 23,930 | 3.51 | 0.68 | 21,769 | 3.19 | 0.87 | 2,094 | 0.31 | 7.00 |
| **MSEDCL Total** | **1,03,714** | **1.00** | **35,955** | **3.47** | **1.00** | **32,019** | **3.09** | **1.00** | **2,399** | **0.23** | **6.79** |

**Table 9-14: Category Wise Total Cost of Service for FY 2019-20, considered by Commission (Rs. Crore)**

| Voltage levels | Sales (MU) | Allocation % | Demand Related | Demand (Rs/Unit) | Allocation % | Energy Related | Energy (Rs/unit) | Allocation % | Customer Related | Customer (Rs/Unit) | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EHV (66 kV & above) | 8,549 | 0.07 | 2,624 | 3.07 | 0.07 | 2,222 | 2.60 | 0.00 | 5 | 0.01 | 5.67 |
| HT Level (33 kV) | 9,495 | 0.09 | 3,721 | 3.92 | 0.08 | 2,743 | 2.89 | 0.01 | 29 | 0.03 | 6.84 |
| HT Level (22&/or 11 kV) | 18,160 | 0.17 | 6,668 | 3.67 | 0.17 | 5,467 | 3.01 | 0.11 | 284 | 0.16 | 6.84 |
| LT Level | 72,166 | 0.67 | 26,619 | 3.69 | 0.68 | 22,595 | 3.13 | 0.87 | 2,207 | 0.31 | 7.13 |
| **MSEDCL Total** | **1,08,369** | **1.00** | **39,632** | **3.66** | **1.00** | **33,103** | **3.05** | **1.00** | **2,525** | **0.23** | **6.94** |

9.18.10. Thus, the per unit voltage wise cost of supply for FY 2018-19 and FY 2019-20 is as shown under:

**Table 9-15: VCoS for FY 2018-19 and FY 2019-20, as approved by Commission**

| Voltage level | FY 2018-19 (Rs/kWh) | FY 2019-20 (Rs/kWh) |
|---|---|---|
| EHV (66 kV & above) | 5.56 | 5.67 |
| HT Level (33 kV) | 6.57 | 6.84 |
| HT Level (22&/or 11 kV) | 6.58 | 6.84 |
| LT Level | 7.00 | 7.13 |
| **Total** | **6.79** | **6.94** |

9.18.11. Further, as explained in the subsequent Sections, with the un-bundling of the tariff components into Demand Charge, Energy (Supply) Charge and Wheeling Charge components, and applying Wheeling Charges at the respective voltage levels, the Commission has sought to address the principle that the retail tariff should reflect the underlying variation in cost of supply at different voltage levels in the different categories. Further, the Commission has determined separate wheeling charges for consumers connected at 22 kV. Further, as per the MYT Regulations, 2015, the Retail Supply Tariff for different consumer categories is to be determined on the basis of the ACoS, while keeping in view the cost of supply at different voltage levels: Relevant extract of the same are as under:

*"88. Determination of Retail Supply Tariff –*

*88.1 The Commission may categorize consumers on the basis of their Load Factor, Power Factor, voltage, total consumption of electricity during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required.*

*88.2 The retail supply tariff for different consumer categories shall be determined on the basis of the Average Cost of Supply, computed as the ratio of the Aggregate Revenue Requirement of the Distribution Licensee for the Year determined in accordance with Regulation 78, and including unrecovered Revenue Gaps of previous years to the extent proposed to be recovered, to the total sales of the Distribution Licensee for the respective Year.*

*88.3 The Commission shall endeavour to gradually reduce the cross-subsidy between consumer categories with respect to the Average Cost of Supply in accordance with the provisions of the Act. 88.4 While determining the tariff, the Commission shall also keep in view the cost of supply at different voltage levels and the need to minimise tariff shock to consumers."*

## 9.19. Revision of ToD Charges

***MSEDCL's Submission***

9.19.1. Petitioner has submitted that, the purpose of TOD tariff is to shift the load from peak to off-peak hours and avoid spikes in the demand pattern. Considering the load curves for last three years, Petitioner has suggested, that to incentivize consumers for shifting their demand pattern, it is necessary to relook at the TOD tariffs and ToD Slots. Petitioner has proposed the TOD tariffs as under:

**Table 9-16: ToD Tariff proposed by MSEDCL**

| Time Slots | Existing (Rs/kWh) | Proposed (Rs/kWh) |
|---|---|---|
| 0600 hrs to 0900 hrs | 0.00 | 0.80 |
| 0900 hrs to 1200 hrs | 0.80 | 0.00 |
| 1200 hrs to 1800 hrs | 0.00 | 0.00 |
| 1800 hrs to 2200 hrs | 1.10 | 1.50 |
| 2200 hrs to 0600 hrs | (1.50) | (1.50) |

***Commission's Analysis and Rulings***

9.19.2. The Commission observes that need for revision in ToD slabs and rates thereof would depend on several factors such as change in the load curve, demand side measures, overall system demand management measures in vogue etc. Appropriately devised

ToD incentive/dis-incentive scheme acts as useful tool to modulate consumer behaviour to desired outcome while accomplishing overall load-generation balance and shall facilitate power system operations. In state-wide centralised merit order based load-despatch scenario the ToD pricing scheme cannot be devised in isolation and should be uniformly applied for all distribution licensees.

9.19.3. As this issue has to be seen in totality across all Licensees, the Commission will take a view on proposals to modify the ToD time-slots and/or ToD slot-wise tariffs in the next Control Period.

## 9.20. Challenges related to Short Term Open Access Transactions

***<u>Short Term Open Access Transmission Charges</u>***

***MSEDCL's Submission***

9.20.1. Petitioner has submitted that, some of the Open Access consumers are misusing certain provisions of the present MERC Open Access Regulations. e.g. the consumers are seeking open access for a period of one month under short term open access for consecutive period of more than 3 months which actually should have come under the medium term open access.

9.20.2. The Commission has determined the transmission tariff for medium term and short-term users in terms of Rs./kW/month and Rs./kWh respectively. In order to avoid the transmission charges in terms of Rs./kW/month, the consumers are seeking short term open access for consecutive months (>3months) instead of opting for medium term open access. Thus, they are putting additional financial burden on MSEDCL, which in turn is being passed on to the consumers of MSEDCL by way of increased tariffs.

9.20.3. Petitioner further submitted that, it has to pay the transmission charges to STU based on MW irrespective of the actual consumption and therefore the difference in the amount is overburden on the consumers of MSEDCL, which actually needs to be borne by open access consumers. Hence, Petitioner has requested the Commission to approve the short-term open access charges in terms of Rs./kW/month instead of present Rs/kWh. Short Term OA charges need to be more than Medium term Open Access Charges.

***<u>Charges for Open Access Charges</u>***

9.20.4. MSEDCL has referred to the Consultation paper issued by MoP, where the Committee has made it suggestion regarding the issues and difficulties related to Open Access transactions, faced by Distribution Utilities. Petitioner stated that, present open access charges needs revision. Such, revisions needs to be based on period of confirmed schedule or degree of certainty, which will eventually lead to incentivizing consumers who assist DISCOMs in improving accuracy of demand forecasts and in adhering to schedule.

9.20.5. Further, recent increase in Open Access has financially burdened the MSEDCL and resulted in revenue impact of around Rs. 2000 Crs per annum in last 3-4 years. The majority of Open Access permissions given by MSEDCL are of short term. The Short term sourcing is very volatile and frequent switching of sources is making the power purchase planning difficult. Because of the long-term tie-ups, the MSEDCL has to pay fixed charges irrespective of power drawl.

9.20.6. Considering the various obligations on the MSEDCL, the scheduling of power is getting difficult. Being the provider of last resort and Universal Service Obligation, the MSEDCL is required to maintain the sufficient power availability in case of failure of source of Open Access consumer. This is adding unnecessary financial burden of fixed costs on the MSEDCL, which is being reflected into the tariffs. Increased obligations, higher tariffs and open access has turned into a vicious cycle further stressing the finances of MSEDCL.

9.20.7. Thus, MSEDCL requested the Commission to devise the Open Access charges in such a way that, the long-term Open Access consumers pay lower charges than the medium term and short term Open Access consumer pays the highest charges. This will help MSEDCL in avoiding undue burden of Deviation Settlement Mechanism (DSM) charges due to open access as well as in improving accuracy of demand forecasts and in adhering to schedule.

***Commission's Analysis and Rulings***

9.20.8. The Commission has taken a note of the Petitioner's submission regarding the issues pertaining to Short Term Open Access transactions. The Commission observes that, the above highlighted issue is specifically linked to the provisions stipulated under the Open Access Regulations. Thus, the submissions of Petitioner is evidently not under the ambit of the MYT Regulations, 2015. However, the Commission is of the view that, the same shall be specifically considered and dealt under the scope of the OA Regulations, upon filing the fresh submissions by Petitioner and its approval after the due regulatory process.

## 9.21. Wheeling Charges

***MSEDCL's Submissions***

9.21.1. Petitioner has submitted that, the Commission in its MYT Regulations, 2015, has notified the ratio of network and supply cost segregation. Petitioner has considered the same for segregation of ARR for FY 2018-19 and FY 2019-20 for arriving at Wires and Retail Supply Business Cost.

9.21.2. Petitioner further submitted that, MSEDCL does not maintain audited accounts for voltage wise assets. However, based on the engineering study of its assets and as submitted in its previous MYT Petition, Petitioner has arrived at the following segregation, which is derived based on the engineering estimates only. In addition, it was submitted that MSEDCL does not have any segregation between the GFA of 22 kV and 11 kV level and LT level assets. Hence, for the purpose of projections, Petitioner has considered the same GFA for 22 kV and 11 kV, as considered in the MYT Order dated 3 November, 2016, shown in the table below:

**Table 9-17: Segregation of GFA for FY 2018-19 and FY 2019-20, as submitted by MSEDCL**

| Particulars | FY 2019-20 |
|---|---|
| 33 kV level | 14% |
| 22/11 kV level | 56% |
| LT level | 30% |

9.21.3. Petitioner has applied the ratio of voltage wise GFA as shown in the table above for deriving the GFA for 33 kV, 22/11 kV and LT levels assets. The network costs apportioned among voltage level, derived based on the ratio of GFA is as shown under:

**Table 9-18: Network cost apportioned for FY 2018-19 and FY 2019-20, as submitted by MSEDCL**

| Particulars | Unit | FY 2018-19 | FY 2019-20 |
|---|---|---|---|
| 33 kV level | Rs. Crore | 1,464 | 1,521 |
| 22/11 kV level | Rs. Crore | 5,855 | 6,082 |
| LT level | Rs. Crore | 3,137 | 3,258 |

9.21.4. Petitioner has considered the voltage wise sales projected in its MYT Formats for the respective financial years for the computation of Wheeling Charges. The wire costs at higher voltage levels have been further apportioned to lower voltage levels, since the HT systems is also being used to supply LT consumers.

9.21.5. Further, Petitioner calculated the share of each voltage category in the NCPD using percentage of Sales for each consumer category. The Wheeling Charge (Rs/kW/month) is derived by dividing the wheeling cost of each voltage category by the NCPD for the respective category and dividing it by 12 months. Wheeling Charges in Rs./kWh is calculated by dividing the Wheeling Charges derived in Rs/kW/month for each category by the Load Factor (assumed 66%) and 720 hrs (24 x 30).

**Table 9-19: Calculation of Wheeling Charges for FY 2018-19, as submitted by MSEDCL**

| Particulars | Wheeling Loss (%) | Wheeling Cost (Rs. Crore) | Share of NCPD (MW) | Wheeling Charge (Rs./kW/month) | Wheeling Charges (Rs/kWh) |
|---|---|---|---|---|---|
| 33 kV level | 6% | 143 | 1,632 | 73 | 0.15 |
| 22/11 kV level | 9% | 1,465 | 3,103 | 394 | 0.83 |
| LT level | 12% | 8,847 | 12,272 | 601 | 1.26 |
| **Total** | | **10,455** | **17,007** | **512** | **1.08** |

**Table 9-20: Calculation of Wheeling Charges for FY 2019-20, as submitted by MSEDCL**

| Particulars | Wheeling Loss (%) | Wheeling Cost (Rs. Crore) | Share of NCPD (MW) | Wheeling Charge (Rs./kW/month) | Wheeling Charges (Rs/kWh) |
|---|---|---|---|---|---|
| 33 kV level | 6% | 145 | 1,736 | 70 | 0.15 |
| 22/11 kV level | 9% | 1,474 | 3,303 | 372 | 0.83 |
| LT level | 12% | 9,242 | 13,061 | 590 | 1.26 |
| **Total** | | **10,861** | **18,100** | **500** | **1.08** |

9.21.6. Thus, based on the above methodology, Petitioner has proposed the Wheeling Charges and Wheeling Losses at HT and LT level for FY 2018-19 and FY 2019-20, as under:

**Table 9-21: Wheeling Charges and Wheeling Losses for FY 2018-19 and FY 2019-20, as submitted by MSEDCL**

| Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | Wheeling Loss (%) | Wheeling Charges (Rs/Unit) | Wheeling Loss (%) | Wheeling Charges (Rs/Unit) |
| 33 kV level | 6% | 0.15 | 6% | 0.15 |
| 22/11 kV level | 9% | 0.83 | 9% | 0.78 |
| LT level | 12% | 1.26 | 12% | 1.24 |

***Recovery of Wheeling Charges from Consumers connected at higher voltage levels***

***MSEDCL's Submission***

9.21.7. The Commission in its MYT Order dated 3 November, 2016 in Case No. 48 of 2016 has un-bundled the Variable Charge component (earlier termed Energy Charge) of the tariff into a Wheeling Charge component and Energy (Supply) Charge component. This un-bundling of the tariff components and determination of Wheeling Charges for different voltage levels is based on the principle that the consumer tariffs should also reflect the underlying differences in cost of supply at different voltage levels. Hence, HT consumers have been further distinguished based on voltage levels, i.e. EHV, 33 kV, 22 kV and 11 kV.

9.21.8. As per Regulation 5.3 of the MERC (Standards of Performance of Distribution Licensees, Period for Giving Supply and Determination of Compensation) Regulations, 2014, the installations have been classified by the Commission. As per Section 43 of the Electricity Act, 2003, MSEDCL is bound release supply as per stipulations made out in SoP Regulations, 2014. Considering availability of various voltage level networks, RoW issues in the infrastructure installation, space constraints, infrastructure cost and consumer requests, MSEDCL has taken rational view of releasing connections at available voltage levels (could be higher or lower) and upgrade the same as network gets upgraded.

9.21.9. Hon'ble Commission in its Order dated 25 April, 2018 in Case No.99 of 2017 has taken up an issue of levy of Wheeling Charges to consumers connected on lower voltage levels wherein the Hon'ble Commission noted following:

> *"42. MSEDCL has many other consumers who are availing power at higher or lower voltage level than specified in SoP Regulations. This could be because of non-availability of requisite network. The possibility of gaming by consumers to pay lower Wheeling Charge also cannot be ruled out due to which MSEDCL is possibly losing their legitimate Wheeling Charge revenue. The Commission would look into this aspect and give necessary direction in the MTR Order."*

9.21.10. As per MERC (Standards of Performance of Distribution Licensees, Period for Giving Supply and Determination of Compensation) Regulations, 2005, the connections of the consumers were done at specific voltage levels. The said regulations were amended in the year 2014 in which the limit for release of load at various voltage levels was redefined. However, at present, certain consumers are still connected at higher voltage levels than prescribed in the amended regulations.

9.21.11. Presently 1797 consumers are connected at a higher voltage level than the prescribed one. In spite of availability of lower voltage level and having a sanctioned load limit of lower voltage level, these consumers are paying less wheeling charges due to which there is loss of wheeling charges of Rs. 664 Crs. as per the provisional information available for FY 2017-18.

9.21.12. Petitioner has considered the sales for such consumers for FY 2018-19 and FY 2019-20 as per the provisional information of FY 2017-18 and accordingly has considered the revenue from wheeling charges of Rs. 664 Crore for each of the years i.e. FY 2018-19 and FY 2019-20.

9.21.13. Accordingly, Petitioner prayed before the Hon'ble Commission the principle adopted in Order (Case No.99 of 2017) needs to be applied uniformly and recovery of wheeling charges needs to be based on billed demand of such consumers for that particular month for the years FY 2018-19 and FY 2019-20.

***Commission's Analysis and Rulings***

9.21.14. Several Objectors have sought clarification from the Commission for the consumers connected at 22 kV level are paying Wheeling Charges of 11 kV, which is higher for the said voltage level, since, there is no separate wheeling charges for these two voltage levels. In addition, some of the objectors have also sought separate determination of Wheeling Charges for 22 kV voltage level as well, which is presently merged with the 11 kV voltage level, or else merging wheeling Charge of the 22 kV level with that of the 33 kV instead of the 11 kV level.

9.21.15. The Commission in its previous MYT Order in Case No. 48 of 2016, observed that, the sales reported by MSEDCL for 22 kV is higher as compared to the Sales reported against 33 kV and 11 kV voltage, which gave a strong case for determining separate Wheeling Charges for the 22 kV level. Further, in the same Order, the Commission has directed MSEDCL to maintain voltage wise break-up of GFA.

9.21.16. During the subsequent queries raised by the Commission as well as MSEDCL's submission in the main Petition states that no such account for the voltage-wise GFA is being maintained by MSEDCL, which reiterates the same case of the previous Order, where the Commission has ultimately worked out the Wheeling charges based on the ratio derived from the Voltage-wise sales recorded for the respective financial years. However, the Commission directs MSEDCL to submit the voltage-wise break-up of GFA and voltage-wise loss levels separately for all major voltage levels, i.e. EHV (above 33 kV), 33 kV, 22 kV, 11 kV and LT, in its next MYT Petition to enable the Commission to determine the Wheeling Charges for all these voltage levels separately.

9.21.17. In the present MTR Order, the Commission has now segregated the Voltage levels of 11 kV and 22 kV and worked out the Wheeling Charges for 33 kV, 22kV, 11 kV and LT Level separately. In absence of voltage-wise network costs details from MSEDCL, the Commission has taken the voltage-wise GFA ratio and the ratio of energy sales across the categories as proposed by MSEDCL, which is summarised as under:

**Table 9-22: GFA and Sales for FY 2018-19 and FY 2019-20, considered by Commission**

| Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|
| | Voltage-wise GFA Ratio (%) | Sales (% of Total) | Voltage-wise GFA Ratio (%) | Sales (% of Total) |
| 33 kV | 14.00% | 10.28% | 14.00% | 9.94% |
| 22 kV | 20.00% | 11.13% | 20.00% | 10.78% |
| 11 kV | 36.00% | 7.93% | 36.00% | 7.68% |
| LT | 30.00% | 70.66% | 30.00% | 71.59% |

9.21.18. Based on the sales ratio, the Commission has worked out the voltage-wise energy sales, excluding EHV Sales, for 33 kV, 22 kV, 11 kV and LT Levels for FY 2018-19 and FY 2019-20.

**Table 9-23: Voltage-wise Energy Sales for computation of Wheeling Charges for FY 2018-19 and FY 2019-20**

| Sr. No. | Particulars | FY 2018-19 | | FY 2019-20 | |
|---|---|---|---|---|---|
| | | Sales (%) | Sales (MU) | Sales (%) | Sales (MU) |
| 1 | 33 kV | 10.28% | 9372.69 | 9.94% | 9462.85 |
| 2 | 22 kV | 11.13% | 10152.80 | 10.78% | 10265.17 |
| 3 | 11 kV | 7.93% | 7230.08 | 7.68% | 7310.09 |
| 4 | LT | 70.66% | 64450.42 | 71.59% | 68146.96 |

9.21.19. The Commission has computed the share of each voltage category in the NCPD using the percentage sales for each category.

**Table 9-24: Voltage-wise Share of Network Cost for FY 2018-19 and FY 2019-20, as considered by Commission**

| Particulars | Network Cost (Rs. Crs) | Sales (MUs) | % of Sales | % of Sales between 22 kV, 11 kV & LT Level | Wheeling Cost (Rs. Crs) |
|---|---|---|---|---|---|
| **FY 2018-19** | | | | | |
| 33 kV | 1350.85 | 9372.69 | 10.28% | | 138.82 |

| Particulars | Network Cost (Rs. Crs) | Sales (MUs) | % of Sales | % of Sales between 22 kV, 11 kV & LT Level | Wheeling Cost (Rs. Crs) |
|---|---|---|---|---|---|
| 22 kV | 1929.78 | 10152.80 | 11.13% | 12.41% | 389.80 |
| 11 kV | 3473.61 | 7230.08 | 7.93% | 8.84% | 563.33 |
| LT | 2894.68 | 64450.42 | 70.66% | 78.76% | 8556.98 |
| **Total** | **9648.92** | **91205.99** | **100.00%** | **100.00%** | **9648.92** |
| **FY 2019-20** | | | | | |
| 33 kV | 1396.12 | 9462.85 | 9.94% | | 138.80 |
| 22 kV | 1994.45 | 10265.17 | 10.78% | 11.97% | 389.40 |
| 11 kV | 3590.01 | 7310.09 | 7.68% | 8.53% | 565.10 |
| LT | 2991.68 | 68146.96 | 71.59% | 79.50% | 8878.97 |
| **Total** | **9972.26** | **95185.07** | **100.00%** | **100.00%** | **9972.26** |

9.21.20. In line with the earlier methodology applied in the previous MYT Order in Case No. 48 of 2016, the Wheeling Charges (Rs/kWh) and Wheeling Losses for FY 2018-19 and FY 2019-20 are as shown under:

**Table 9-25: Wheeling Charges approved for FY 2018-19 and FY 2019-20**

| Particulars | Wheeling Loss (%) | Total Wheeling Cost (Rs. Crore) | Share in Average CPD and NCPD (MW) | Wheeling Charge (Rs/kW/Month) | Wheeling Charges @66% Load Factor (Rs/kWh) |
|---|---|---|---|---|---|
| **FY 2018-19** | | | | | |
| 33 kV | 6.00% | 138.82 | 1598.90 | 72.35 | 0.15 |
| 22 kV | 7.50% | 389.80 | 1776.38 | 182.86 | 0.38 |
| 11 kV | 9.00% | 563.33 | 1265.00 | 371.10 | 0.78 |
| LT | 12.00% | 8556.98 | 11504.13 | 619.85 | 1.30 |
| **Total** | | **9648.92** | **16144.41** | **498.05** | **1.05** |
| **FY 2019-20** | | | | | |
| 33 kV | 6.00% | 138.80 | 1632.22 | 70.86 | 0.15 |
| 22 kV | 7.50% | 389.40 | 1832.69 | 177.06 | 0.37 |
| 11 kV | 9.00% | 565.10 | 1305.11 | 360.83 | 0.76 |
| LT | 12.00% | 8878.97 | 12174.48 | 607.76 | 1.28 |
| **Total** | | **9972.26** | **16944.51** | **490.44** | **1.03** |

9.21.21. In this Order, the Commission has also determined the Wires and Supply components of the tariff separately for each consumer category. Accordingly, the Wheeling Charge component and Energy Charge component have been shown separately while computing the category-wise tariff, with the exception of the Residential BPL category. In case of Residential BPL category, no wheeling charges haven apportioned considering the consumer profile of this category.

### 9.22. Revision in Billing Demand

***MSEDCL's Submissions***

9.22.1. Petitioner has submitted that, in order to help the industrial consumers in shifting the demand and flattening the demand curve, the Commission in its Tariff Order dated 5 May, 2000, revised the definition of billing demand to be higher for HT Industrial Consumer as under:

a. Actual Demand (During 0600 hrs to 2200 hrs)

b. 75% of the highest billing demand during preceding 11 months

c. 50% of the Contract Demand

d. 50 kVA

9.22.2. Petitioner further highlighted that, the Commission in its Tariff Order dated 10 January, 2002, observed that minimum billing demand of 50 kVA may not give the smaller industrial units any incentive to control their demand. Hence, the Commission had modified the formula for Billing Demand for HT Industrial consumers, by removing the clause of 'minimum 50 kVA'.

9.22.3. Petitioner submitted that, many consumers are taking undue advantage of the present definition of the billing demand and manipulating the same for taking load factor incentives as well as ToD rebates by exceeding the contract during night hours. In addition, most of the Open Access consumers opt for partial Open Access and do not reduce their Contact Demand.

9.22.4. In line with the provisions laid under National Tariff Policy and the Electricity Act, 2003, since the Cross Subsidy Surcharge takes care of the reduction in power purchase, the Licensee is not expected to purchase the power for the Open Access. Due to Universal Service Obligation (USO), Petitioner has to be ready with the requisite power including the Contract Demand for the Open Access consumers. Such obligations, makes power procurement planning more challenging for Petitioner, and pay fixed charges for the contracted power.

9.22.5. Petitioner further submitted that, the many consumers exceeds their demand during night hours to avail benefits of ToD rebate. Such frequent instances of exceeding demand causes saturation of CTs resulting in erroneous readings. This leads to financial loss to MSEDCL due to incorrect recordings of consumption. Thus, such excess demand has to be considered as a part of billing demand. The recovery from fixed charges approved by the Commission is affected due to restriction on billing demand.

9.22.6. Petitioner submitted the table illustrating the actual recovery through fixed/demand charges for HT Industries as against the tariff approved by the Commission, as under:

| Particulars | MERC Case No. | Approved (Rs. Crore) | Actual (Rs. Crore) |
|---|---|---|---|
| FY 2015-16 | 121 of 2015 | 2,682 | 1,643 |
| FY 2016-17 | 48 of 2016 | 2,864 | 1,785 |
| FY 2017-18 | 48 of 2016 | 3,268 | 2,130 |

9.22.7. In view of the above, MSEDCL has proposed the change in the definition of Billing Demand shown as under:

<table>
<tr><th rowspan="2">Category</th><th>Existing</th><th>Proposed</th></tr>
<tr><th>Maximum of</th><th>Maximum of</th></tr>
<tr><td>LT</td><td>65% of actual MD recorded during 0600 hrs to 2200 hrs OR 40% of the Contract Demand</td><td>Actual MD recorded OR 85% of the Contract Demand</td></tr>
<tr><td>HT</td><td>Actual MD recorded during 0600 hrs to 2200 hrs OR 75% of the highest Billing Demand OR 50% of the Contract Demand</td><td>Actual MD recorded OR 90% of the Contract Demand</td></tr>
</table>

9.22.8. Petitioner further submitted that, in view of the explanation provided, MSEDCL has computed the revenue from proposed Fixed/Demand Charges for HT & LT category for FY 2018-19 and FY 2019-20 considering the proposed definition for billing demand.

***Commission's Analysis and Rulings***

9.22.9. The Commission observes that several consumers have raised objections to change in the definition of the billing demand during the public hearing process and also through written objections. The dual impact of revision in the Fixed/Demand Charges along with revision in the definition of Billing Demand would have significant tariff impact/shock for the consumers. Besides, the concern raised by the Utility regarding mis-use or selective use of the billing demand to claim LF incentive also need to be addressed.

9.22.10. Accordingly, the Commission has revised the eligibility conditions for applicability LF incentive, which would hopefully address the concerns raised by MSEDCL. Hence, the Commission has not accepted MSEDCL's proposal for revision in definition of Billing Demand but has put restriction on the eligibility of LF incentive; in case Billing Demand exceeds Contract Demand in any of the time block duration through the day.

**9.23. kVAh based Billing**

***MSEDCL's Submission***

9.23.1. There are two components of electric power, active and reactive power. The active or real power is actually consumed or converted into useful work, is measured in kW, and is totalised by the energy meter in kWh. The reactive power is measured by kilo Volt Ampere Reactive (kVAR) and is totalised by the energy meter in kVARh. This power is used to provide the electromagnetic field in inductive and capacitive equipment.

9.23.2. The reactive power occupies the capacity of electricity network and reduces the useful capacity of the system for generation and distribution. The source of most reactive currents is the poor Power Factor (pf) loads (equipment) connected at consumer premises. As these loads are not compensated by appropriate capacitor installations by consumers, utilities are burdened for installation of capacitors.

9.23.3. Petitioner submitted that, the Commission vide its Order dated 5 May, 2000 in the Case No. 1 of 1999 introduced a mechanism to incentivise consumers if they maintain pf above 0.95 and penalize if the pf is less than 0.9 and the same mechanism is presently in vogue. At present, MSEDCL is billing its consumers for active power, which is measured in kWh. Reactive power consumption of all HT and LT consumers having connected load of 20 kW and above are presently eligible for pf incentives.

9.23.4. Petitioner highlighted that, there is no penalty or incentive, if pf is between 0.9 and 0.95, in addition, consumers in this range are also affecting the system to some extent, and not penalised as per the existing tariff structure. Thus, there is no uniformity in incentive and penalty structure.

9.23.5. In FY 2016-17, about 86% of the consumers in HT consumers have availed the pf incentive of Rs. 1361 Crore. These consumers are already being benefitted by less Demand Charges due to reduction in kVA demand because of improved pf. Further, pf incentive is burdening the tariff of all the consumers, since it is passed through tariff. Reactive power consumption for categories of consumers are not covered under pf incentive mechanism remains unaddressed.

9.23.6. Reactive power is a local phenomenon and the extra reactive compensation by Industrial consumers in MIDC/Industrial area cannot be used/compensated against extra reactive energy drawl by agriculture section. As a result system stability of Distribution Company is hampered, thus, every consumers has to shoulder their responsibility to maintain the system pf within permissible limits only.

9.23.7. To remove such anomaly, Petitioner has proposed the introduction of kVAh based billing, wherein kVAh metering and kVAh tariffs is therefore seen as a commercial inducement to consumers to ensure a smaller electricity bill by ensuring that they do not draw reactive power.

9.23.8. The report of Forum of Regulators (FoR) on ‘Metering Issues’, August, 2009, has strongly advocated to adopt kVAh billing in India. In addition, many States in India as per their respective SERC’s Order has already adopted kVAh based billing mechanism. Petitioner also referred the Hon’ble ATE judgement dated 10 April, 2015 in Appeal No. 264/2013, highlighting the advantages of High pf and kVAh based billing, observed by the Hon’ble ATE. Further, as regards, kVAh measurement and billing, wherever possible re-programming of meters at site will be carried out, otherwise appropriate meters will be installed.

9.23.9. In view of submission in aforesaid paragraphs, Petitioner is proposing to adopt kVAh based billing presently for all HT category consumers and pf incentive for these categories may be withdrawn from FY 2018-19 onwards. Petitioner further submitted that, the adoption of kVAh based billing may require updation of Software of the consumer's meter, as this may take some time, considering the number of consumers.

9.23.10. For the purposed of smooth billing during this transition period, Petitioner proposed that the recorded kWh reading shall be converted to kVAh consumption for billing using actual recorded power factor. If the actual power factor recorded is more than 0.95, the pf conversion shall be limited to 0.95, as this will also help to accelerate transition to kVAh based billing system.

***Commission's Analysis and Rulings***

9.23.11. The Commission has taken a note of Petitioner's proposal for adoption of kVAh-based billing for HT consumer categories. The Commission is of the view that the kVAh billing may not be appropriate at this time of juncture as it has to be done in a gradual manner to avoid any tariff shock due to such change. MSEDCL may submit its proposal for kVAh billing in next control period. The Commission intends to implement kVAh billing to all HT consumer and LT consumers having load above 20 kW from 1 April, 2020. All Distribution Licensees in State are required to take necessary steps such as meter replacement, if required, preparedness of billing software etc. Also, wherever possible, Distribution Licensee shall start collecting category-wise energy consumption details in kVAh terms and submit it during the next Tariff determination process. Though the Commission agrees that the benefits and its technical superiority for measuring energy, it is felt that sufficient time needs to be given to MSEDCL and also the consumers to change over the billing kVAh method. The Commission directs MSEDCL to educate the consumers and take all necessary steps to ensure that all the consumers are billed by kVAh method from the next MYT i.e. from 1$^{st}$ April 2020.

9.23.12. In view of above, in the present MTR Order, the Commission has decided to continue with existing Tariff Structure across all consumer categories.

## 9.24. Revised Tariffs with effect from 1, September, 2018

### Table 9-26: Summary of LT Tariff for FY 2018-19, effective from 1 September, 2018

| Category | Fixed/Demand Charge | | Energy Charges | Wheeling Charges | Total Variable Charges |
|---|---|---|---|---|---|
| | Unit | Rate | Rs/kWh | | |
| **LT I: LT - Residential** | | | | | |
| LT I(A): LT - Residential-BPL | Rs./Month | 20.00 | 1.06 | - | 1.06 |
| LT I(B): LT - Residential | | - | - | - | |
| 0-100 Units | Rs./Month | 80.00 | 3.00 | 1.30 | 4.30 |
| 101-300 Units | Rs./Month | 80.00 | 6.73 | 1.30 | 8.03 |
| 301-500 Units | Rs./Month | 80.00 | 9.75 | 1.30 | 11.05 |
| 501-1000 Units | Rs./Month | 80.00 | 10.50 | 1.30 | 11.80 |
| Above 1000 Units | Rs./Month | 80.00 | 11.50 | 1.30 | 12.80 |
| **Three Phase Connection*** | Rs./Month | 300.00 | - | - | - |
| **LT II: LT - Non-Residential** | | | | | |
| (A) (i): 0 – 20 kW (0-200 Units per Month) | Rs./Month | 350.00 | 6.00 | 1.30 | 7.30 |
| (A) (ii): 0 – 20 kW (Above 200 Units per Month - Only balance above 200 Units) | Rs./Month | 350.00 | 9.20 | 1.30 | 10.50 |
| (B): >20 kW and ≤ 50 kW | Rs./kVA/Month | 350.00 | 9.30 | 1.30 | 10.60 |
| (C): >50 KW | Rs./kVA/Month | 350.00 | 11.60 | 1.30 | 12.90 |
| **LT III: LT - Public Water Works (PWW)** | | | | | |
| (A): 0-20 KW | Rs./kVA/Month | 90.00 | 2.15 | 1.30 | 3.45 |
| (B): > 20 kW and ≤ 40 kW | Rs./kVA/Month | 110.00 | 3.50 | 1.30 | 4.80 |
| (C): > 40 kW | Rs./kVA/Month | 140.00 | 4.80 | 1.30 | 6.10 |
| **LT IV: LT - Agriculture** | | | | | |
| **LT IV(A): LT - AG Un-metered - Pumpsets** | | | | | |
| Category 1 Zones (Above 1318 Hrs/HP/Annum) | | | | | |
| (a) 0-5 HP | Rs./HP/Month | 355.00 | - | 127.00 | 482.00 |
| (b) Above 5 HP - 7.5 HP | Rs./HP/Month | 386.00 | - | 127.00 | 513.00 |
| (c) Above 7.5 HP | Rs./HP/Month | 415.00 | - | 127.00 | 542.00 |
| Category 2 Zones (Below 1318 Hrs/HP/Annum) | | - | - | - | |
| (a) 0-5 HP | Rs./HP/Month | 255.00 | - | 127.00 | 382.00 |
| (b) Above 5 HP - 7.5 HP | Rs./HP/Month | 285.00 | - | 127.00 | 412.00 |
| (c) Above 7.5 HP | Rs./HP/Month | 315.00 | - | 127.00 | 442.00 |
| **LT IV(B): LT - Agriculture Metered Tariff - Pumpsets** | Rs./HP/Month | 35.00 | 1.93 | 1.30 | 3.23 |

| Category | Fixed/Demand Charge | | Energy Charges | Wheeling Charges | Total Variable Charges |
|---|---|---|---|---|---|
| | Unit | Rate | Rs/kWh | | |
| **LT IV(C): LT - Agriculture Metered – Others** | Rs./kW/Month | 110.00 | 3.26 | 1.30 | 4.56 |
| **LT V (A): LT - Industry - Powerlooms** | | | | | |
| (i): 0-20 KW | Rs./Connection/ Month | 350.00 | 4.65 | 1.30 | 5.95 |
| (ii): Above 20 KW | Rs./kVA/Month | 280.00 | 5.85 | 1.30 | 7.15 |
| **LT V(B): LT - Industry - General** | | | | | |
| (i): 0-20 KW | Rs./Connection/ Month | 350.00 | 4.76 | 1.30 | 6.06 |
| (ii): Above 20 KW | Rs./kVA/Month | 280.00 | 5.63 | 1.30 | 6.93 |
| **LT VI: LT - Street Light** | | | | | |
| (A): Grampanchayat A B & C Class Municipal Council | Rs./kW/Month | 100.00 | 4.59 | 1.30 | 5.89 |
| (B): Municipal corporation Area | Rs./kW/Month | 100.00 | 5.68 | 1.30 | 6.98 |
| **LT VII: LT - Temporary Connection** | | | | | |
| (A): LT - Temporary Supply Religious (TSR) | Rs./Connection/ Month | 400.00 | 3.79 | 1.30 | 5.09 |
| (B): LT - Temporary Supply Others (TSO) | Rs./Connection/ Month | 460.00 | 12.33 | 1.30 | 13.63 |
| **LT VIII: LT - Advertisements and Hoardings** | Rs./Connection/ Month | 800.00 | 11.58 | 1.30 | 12.88 |
| **LT IX: LT - Crematorium and Burial Grounds** | Rs./Connection/ Month | 400.00 | 3.14 | 1.30 | 4.44 |
| **LT X (A) - Public Services - Government** | | | | | |
| (i): ≤ 20 kW (0-200 Units) | Rs./Connection/ Month | 310.00 | 2.90 | 1.30 | 4.20 |
| (i): ≤ 20 kW (Above 200 Units) | Rs./Connection/ Month | 310.00 | 4.10 | 1.30 | 5.40 |
| (ii): >20 - ≤ 50 kW | Rs./kVA/Month | 310.00 | 4.20 | 1.30 | 5.50 |
| (iii): >50 kW | Rs./kVA/Month | 310.00 | 5.40 | 1.30 | 6.70 |
| **LT X(B) - Public Services - Others** | | | | | |
| (i): ≤ 20 kW (0-200 Units) | Rs./Connection/ Month | 350.00 | 4.14 | 1.30 | 5.44 |
| (i): ≤ 20 kW (Above 200 Units) | Rs./Connection/ Month | 350.00 | 6.79 | 1.30 | 8.09 |
| (ii): >20 - ≤ 50 kW | Rs./kVA/Month | 350.00 | 6.85 | 1.30 | 8.15 |
| (iii): >50 kW | Rs./kVA/Month | 350.00 | 7.21 | 1.30 | 8.51 |
| **LT XI – Electric Vehicle Charging Station** | | | | | |

| Category | Fixed/Demand Charge | | Energy Charges | Wheeling Charges | Total Variable Charges |
|---|---|---|---|---|---|
| | Unit | Rate | Rs/kWh | | |
| Electric Vehicle Charging Station | Rs./kVA/Month | 70.00… | 4.70 | 1.30 | 6.00 |

## Table 9-27: Summary of LT Tariff Categories for FY 2019-20, effective from 1 April, 2019

| Category | Fixed/Demand Charge | | Energy Charges | Wheeling Charges | Total Variable Charges |
|---|---|---|---|---|---|
| | Unit | Rate | Rs/kWh | | |
| **LT I: LT - Residential** | | | | | |
| LT I(A): LT - Residential-BPL | Rs./Month | 25.00 | 1.10 | - | 1.10 |
| LT I(B): LT - Residential | | - | - | - | |
| 0-100 Units | Rs./Month | 90.00 | 3.05 | 1.28 | 4.33 |
| 101-300 Units | Rs./Month | 90.00 | 6.95 | 1.28 | 8.23 |
| 301-500 Units | Rs./Month | 90.00 | 9.90 | 1.28 | 11.18 |
| 501-1000 Units | Rs./Month | 90.00 | 11.50 | 1.28 | 12.78 |
| Above 1000 Units | Rs./Month | 90.00 | 12.50 | 1.28 | 13.78 |
| **Three Phase Connection*** | Rs./Month | 320.00 | - | - | - |
| **LT II: LT - Non-Residential** | | - | - | - | |
| (A) (i): 0 – 20 kW (0-200 Units per Month) | Rs./Month | 391.00 | 6.10 | 1.28 | 7.38 |
| (A) (ii): 0 – 20 kW (Above 200 Units per Month - Only balance above 200 Units) | Rs./Month | 391.00 | 9.25 | 1.28 | 10.53 |
| (B): >20 kW and ≤ 50 kW | Rs./kVA/Month | 391.00 | 9.30 | 1.28 | 10.58 |
| (C): >50 KW | Rs./kVA/Month | 391.00 | 11.60 | 1.28 | 12.88 |
| **LT III: LT - Public Water Works (PWW)** | | - | - | - | |
| (A): 0-20 KW | Rs./kVA/Month | 97.00 | 2.15 | 1.28 | 3.43 |
| (B): > 20 kW and ≤ 40 kW | Rs./kVA/Month | 117.00 | 3.50 | 1.28 | 4.78 |
| (C): > 40 kW | Rs./kVA/Month | 146.00 | 4.80 | 1.28 | 6.08 |
| **LT IV: LT - Agriculture** | | - | - | - | |
| **LT IV(A): LT - AG Un-metered – Pumpsets** | | - | - | - | |
| Category 1 Zones (Above 1318 Hrs/HP/Annum) | | - | - | - | |
| (a) 0-5 HP | Rs./HP/Month | 374.00 | - | 127.00 | 501.00 |
| (b) Above 5 HP - 7.5 HP | Rs./HP/Month | 403.00 | - | 127.00 | 530.00 |
| (c) Above 7.5 HP | Rs./HP/Month | 452.00 | - | 127.00 | 579.00 |

| Category | Fixed/Demand Charge | | Energy Charges | Wheeling Charges | Total Variable Charges |
|---|---|---|---|---|---|
| | Unit | Rate | Rs/kWh | | |
| Category 2 Zones (Below 1318 Hrs/HP/Annum) | | - | - | - | |
| (a) 0-5 HP | Rs./HP/Month | 288.00 | - | 127.00 | 415.00 |
| (b) Above 5 HP - 7.5 HP | Rs./HP/Month | 316.00 | - | 127.00 | 443.00 |
| (c) Above 7.5 HP | Rs./HP/Month | 366.00 | - | 127.00 | 493.00 |
| **LT IV(B): LT - Agriculture Metered Tariff - Pumpsets** | Rs./HP/Month | 40.00 | 2.09 | 1.28 | 3.37 |
| **LT IV(C): LT - Agriculture Metered – Others** | Rs./kW/Month | 108.00 | 3.51 | 1.28 | 4.79 |
| **LT V (A): LT - Industry - Powerlooms** | | - | - | - | |
| (i): 0-20 KW | Rs./Connection/Month | 441.00 | 4.69 | 1.28 | 5.97 |
| (ii): Above 20 KW | Rs./kVA/Month | 294.00 | 6.02 | 1.28 | 7.30 |
| **LT V(B): LT - Industry - General** | | - | - | - | |
| (i): 0-20 KW | Rs./Connection/Month | 441.00 | 4.81 | 1.28 | 6.09 |
| (ii): Above 20 KW | Rs./kVA/Month | 294.00 | 5.70 | 1.28 | 6.98 |
| **LT VI: LT - Street Light** | | - | - | - | |
| (A): Grampanchayat A B & C Class Municipal Council | Rs./kW/Month | 108.00 | 4.80 | 1.28 | 6.08 |
| (B): Municipal corporation Area | Rs./kW/Month | 108.00 | 5.85 | 1.28 | 7.13 |
| **LT VII: LT - Temporary Connection** | | - | - | - | |
| (A): LT - Temporary Supply Religious (TSR) | Rs./Connection/Month | 443.00 | 3.27 | 1.28 | 4.55 |
| (B): LT - Temporary Supply Others (TSO) | Rs./Connection/Month | 449.00 | 12.79 | 1.28 | 14.07 |
| **LT VIII: LT - Advertisements and Hoardings** | Rs./Connection/Month | 833.00 | 12.00 | 1.28 | 13.28 |
| **LT IX: LT - Crematorium and Burial Grounds** | Rs./Connection/Month | 438.00 | 3.26 | 1.28 | 4.54 |
| **LT X (A) - Public Services - Government** | | - | - | - | |
| (i): ≤ 20 kW (0-200 Units) | Rs./Connection/Month | 323.00 | 3.00 | 1.28 | 4.28 |
| (i): ≤ 20 kW (Above 200 Units) | Rs./Connection/Month | 323.00 | 4.20 | 1.28 | 5.48 |
| (ii): >20 - ≤ 50 kW | Rs./kVA/Month | 323.00 | 4.30 | 1.28 | 5.58 |
| (iii): >50 kW | Rs./kVA/Month | 323.00 | 5.40 | 1.28 | 6.68 |
| **LT X(B) - Public Services - Others** | | - | - | - | |

| Category | Fixed/Demand Charge | | Energy Charges | Wheeling Charges | Total Variable Charges |
|---|---|---|---|---|---|
| | Unit | Rate | Rs/kWh | | |
| (i): ≤ 20 kW (0-200 Units) | Rs./Connection/Month | 351.00 | 4.25 | 1.28 | 5.53 |
| (i): ≤ 20 kW (Above 200 Units) | Rs./Connection/Month | 351.00 | 6.90 | 1.28 | 8.18 |
| (ii): >20 - ≤ 50 kW | Rs./kVA/Month | 351.00 | 6.80 | 1.28 | 8.08 |
| (iii): >50 kW | Rs./kVA/Month | 351.00 | 7.20 | 1.28 | 8.48 |
| **LT XI – Electric Vehicle Charging Station** | | | | | |
| Electric Vehicle Charging Station | Rs./kVA/Month | 70.00 | 4.72 | 1.28 | 6.00 |

## Table 9-28: Summary of HT Tariff for FY 2018-19, effective from 1 September, 2018

| Category | Fixed/Demand Charge | | Energy Charges | Wheeling Charges | Total Variable Charges |
|---|---|---|---|---|---|
| | Unit | Rate | Rs/kWh | | |
| **HT Category - EHV (66 kV & Above)** | | | | | |
| HT I (A) (i): HT - Industry | Rs./kVA/Month | 350.00 | 7.10 | - | 7.10 |
| HT I (B): HT - Industry (Seasonal) | Rs./kVA/Month | 350.00 | 7.40 | - | 7.40 |
| HT II : HT - Commercial | Rs./kVA/Month | 350.00 | 11.50 | - | 11.50 |
| HT III : HT - Railways/Metro/Monorail Traction | Rs./kVA/Month | 350.00 | 7.00 | - | 7.00 |
| HT IV: HT - Public Water Works (PWW) | Rs./kVA/Month | 350.00 | 6.30 | - | 6.30 |
| HT V(A): HT - Agriculture - Pumpsets | Rs./kVA/Month | 60.00 | 3.68 | - | 3.68 |
| HT V(B): HT - Agriculture - Others | Rs./kVA/Month | 60.00 | 5.08 | - | 5.08 |
| HT VI: HT - Group Housing Societies (Residential) | Rs./kVA/Month | 300.00 | 5.73 | - | 5.73 |
| HT VIII(A): HT - Temporary Supply Religious (TSR) | Rs./kVA/Month | 400.00 | 3.60 | - | 3.60 |
| HT VIII(B): HT - Temporary Supply Others (TSO) | Rs./kVA/Month | 375.00 | 11.75 | - | 11.75 |
| HT IX(A): HT - Public Services-Government | Rs./kVA/Month | 350.00 | 7.70 | - | 7.70 |
| HT IX(B): HT - Public Services-Others | Rs./kVA/Month | 350.00 | 9.65 | - | 9.65 |
| **HT Category - 33 kV** | | | | | |
| HT I (A) (i): HT - Industry | Rs./kVA/Month | 350.00 | 7.10 | 0.15 | 7.25 |
| HT I (B): HT - Industry (Seasonal) | Rs./kVA/Month | 350.00 | 7.40 | 0.15 | 7.55 |
| HT II : HT - Commercial | Rs./kVA/Month | 350.00 | 11.50 | 0.15 | 11.65 |
| HT III : HT - Railways/Metro/Monorail Traction | Rs./kVA/Month | 350.00 | 7.00 | 0.15 | 7.15 |
| HT IV: HT - Public Water Works (PWW) | Rs./kVA/Month | 350.00 | 6.30 | 0.15 | 6.45 |

| Category | Fixed/Demand Charge | | Energy Charges | Wheeling Charges | Total Variable Charges |
|---|---|---|---|---|---|
| | Unit | Rate | Rs/kWh | | |
| HT V(A): HT - Agriculture - Pumpsets | Rs./kVA/Month | 60.00 | 3.68 | 0.15 | 3.83 |
| HT V(B): HT - Agriculture - Others | Rs./kVA/Month | 60.00 | 5.08 | 0.15 | 5.23 |
| HT VI: HT - Group Housing Societies (Residential) | Rs./kVA/Month | 300.00 | 5.73 | 0.15 | 5.88 |
| HT VIII(A): HT - Temporary Supply Religious (TSR) | Rs./kVA/Month | 400.00 | 3.60 | 0.15 | 3.75 |
| HT VIII(B): HT - Temporary Supply Others (TSO) | Rs./kVA/Month | 375.00 | 11.75 | 0.15 | 11.90 |
| HT IX(A): HT - Public Services-Government | Rs./kVA/Month | 350.00 | 7.70 | 0.15 | 7.85 |
| HT IX(B): HT - Public Services-Others | Rs./kVA/Month | 350.00 | 9.65 | 0.15 | 9.80 |
| HT X: HT – Electric Vehicle Charging Station | Rs./kVA/Month | 70.00 | 5.85 | 0.15 | 6.00 |
| **HT Category - 22 kV** | | | | | |
| HT I (A) (i): HT – Industry | Rs./kVA/Month | 350.00 | 7.10 | 0.38 | 7.48 |
| HT I (B): HT - Industry (Seasonal) | Rs./kVA/Month | 350.00 | 7.40 | 0.38 | 7.78 |
| HT II : HT - Commercial | Rs./kVA/Month | 350.00 | 11.50 | 0.38 | 11.88 |
| HT III : HT - Railways/Metro/Monorail Traction | Rs./kVA/Month | 350.00 | 7.00 | 0.38 | 7.38 |
| HT IV: HT - Public Water Works (PWW) | Rs./kVA/Month | 350.00 | 6.30 | 0.38 | 6.68 |
| HT V(A): HT - Agriculture - Pumpsets | Rs./kVA/Month | 60.00 | 3.68 | 0.38 | 4.06 |
| HT V(B): HT - Agriculture - Others | Rs./kVA/Month | 60.00 | 5.08 | 0.38 | 5.46 |
| HT VI: HT - Group Housing Societies (Residential) | Rs./kVA/Month | 300.00 | 5.73 | 0.38 | 6.11 |
| HT VIII(A): HT - Temporary Supply Religious (TSR) | Rs./kVA/Month | 400.00 | 3.60 | 0.38 | 3.98 |
| HT VIII(B): HT - Temporary Supply Others (TSO) | Rs./kVA/Month | 375.00 | 11.75 | 0.38 | 12.13 |
| HT IX(A): HT - Public Services-Government | Rs./kVA/Month | 350.00 | 7.70 | 0.38 | 8.08 |
| HT IX(B): HT - Public Services-Others | Rs./kVA/Month | 350.00 | 9.65 | 0.38 | 10.03 |
| HT X: HT – Electric Vehicle Charging Station | Rs./kVA/Month | 70.00 | 5.62 | 0.38 | 6.00 |
| **HT Category - 11 kV** | | | | | |
| HT I (A) (i): HT – Industry | Rs./kVA/Month | 350.00 | 7.10 | 0.78 | 7.88 |
| HT I (B): HT - Industry (Seasonal) | Rs./kVA/Month | 350.00 | 7.40 | 0.78 | 8.18 |
| HT II : HT - Commercial | Rs./kVA/Month | 350.00 | 11.50 | 0.78 | 12.28 |
| HT III : HT - Railways/Metro/Monorail Traction | Rs./kVA/Month | 350.00 | 7.00 | 0.78 | 7.78 |
| HT IV: HT - Public Water Works (PWW) | Rs./kVA/Month | 350.00 | 6.30 | 0.78 | 7.08 |
| HT V(A): HT - Agriculture - Pumpsets | Rs./kVA/Month | 60.00 | 3.68 | 0.78 | 4.46 |
| HT V(B): HT - Agriculture - Others | Rs./kVA/Month | 60.00 | 5.08 | 0.78 | 5.86 |
| HT VI: HT - Group Housing Societies (Residential) | Rs./kVA/Month | 300.00 | 5.73 | 0.78 | 6.51 |
| HT VIII(A): HT - Temporary Supply Religious (TSR) | Rs./kVA/Month | 400.00 | 3.60 | 0.78 | 4.38 |

| Category | Fixed/Demand Charge | | Energy Charges | Wheeling Charges | Total Variable Charges |
|---|---|---|---|---|---|
| | Unit | Rate | Rs/kWh | | |
| HT VIII(B): HT - Temporary Supply Others (TSO) | Rs./kVA/Month | 375.00 | 11.75 | 0.78 | 12.53 |
| HT IX(A): HT - Public Services-Government | Rs./kVA/Month | 350.00 | 7.70 | 0.78 | 8.48 |
| HT IX(B): HT - Public Services-Others | Rs./kVA/Month | 350.00 | 9.65 | 0.78 | 10.43 |
| HT X: HT – Electric Vehicle Charging Station | Rs./kVA/Month | 70.00 | 5.22 | 0.78 | 6.00 |

### Table 9-29: Summary of HT Tariffs for FY 2019-20, effective from 1 April, 2019

| Category | Fixed/Demand Charge | | Energy Charges | Wheeling Charges | Total Variable Charges |
|---|---|---|---|---|---|
| | Unit | Rate | Rs/kWh | | |
| **HT Category - EHV (66 kV & Above)** | | | | | |
| HT I (A) (i): HT - Industry | Rs./kVA/Month | 391.00 | 7.07 | - | 7.07 |
| HT I (B): HT - Industry (Seasonal) | Rs./kVA/Month | 391.00 | 7.34 | - | 7.34 |
| HT II : HT - Commercial | Rs./kVA/Month | 391.00 | 11.73 | - | 11.73 |
| HT III : HT - Railways/Metro/Monorail Traction | Rs./kVA/Month | 391.00 | 7.00 | - | 7.00 |
| HT IV: HT - Public Water Works (PWW) | Rs./kVA/Month | 391.00 | 6.30 | - | 6.30 |
| HT V(A): HT - Agriculture - Pumpsets | Rs./kVA/Month | 69.00 | 3.77 | - | 3.77 |
| HT V(B): HT - Agriculture - Others | Rs./kVA/Month | 69.00 | 5.20 | - | 5.20 |
| HT VI: HT - Group Housing Societies (Residential) | Rs./kVA/Month | 313.00 | 5.82 | - | 5.82 |
| HT VIII(A): HT - Temporary Supply Religious (TSR) | Rs./kVA/Month | 418.00 | 3.75 | - | 3.75 |
| HT VIII(B): HT - Temporary Supply Others (TSO) | Rs./kVA/Month | 391.00 | 12.00 | - | 12.00 |
| HT IX(A): HT - Public Services-Government | Rs./kVA/Month | 391.00 | 7.90 | - | 7.90 |
| HT IX(B): HT - Public Services-Others | Rs./kVA/Month | 391.00 | 9.70 | - | 9.70 |
| **HT Category - 33 kV** | | | | | |
| HT I (A) (i): HT - Industry | Rs./kVA/Month | 391.00 | 7.07 | 0.15 | 7.22 |
| HT I (B): HT - Industry (Seasonal) | Rs./kVA/Month | 391.00 | 7.34 | 0.15 | 7.49 |
| HT II : HT - Commercial | Rs./kVA/Month | 391.00 | 11.73 | 0.15 | 11.88 |
| HT III : HT - Railways/Metro/Monorail Traction | Rs./kVA/Month | 391.00 | 7.00 | 0.15 | 7.15 |
| HT IV: HT - Public Water Works (PWW) | Rs./kVA/Month | 391.00 | 6.30 | 0.15 | 6.45 |
| HT V(A): HT - Agriculture - Pumpsets | Rs./kVA/Month | 69.00 | 3.77 | 0.15 | 3.92 |
| HT V(B): HT - Agriculture - Others | Rs./kVA/Month | 69.00 | 5.20 | 0.15 | 5.35 |
| HT VI: HT - Group Housing Societies (Residential) | Rs./kVA/Month | 313.00 | 5.82 | 0.15 | 5.97 |
| HT VIII(A): HT - Temporary Supply Religious (TSR) | Rs./kVA/Month | 418.00 | 3.75 | 0.15 | 3.90 |

| Category | Fixed/Demand Charge | | Energy Charges | Wheeling Charges | Total Variable Charges |
|---|---|---|---|---|---|
| | Unit | Rate | Rs/kWh | | |
| HT VIII(B): HT - Temporary Supply Others (TSO) | Rs./kVA/Month | 391.00 | 12.00 | 0.15 | 12.15 |
| HT IX(A): HT - Public Services-Government | Rs./kVA/Month | 391.00 | 7.90 | 0.15 | 8.05 |
| HT IX(B): HT - Public Services-Others | Rs./kVA/Month | 391.00 | 9.70 | 0.15 | 9.85 |
| HT X: HT – Electric Vehicle Charging Station | Rs./kVA/Month | 70.00 | 5.85 | 0.15 | 6.00 |
| **HT Category - 22 kV** | | | | | |
| HT I (A) (i): HT - Industry | Rs./kVA/Month | 391.00 | 7.07 | 0.37 | 7.44 |
| HT I (B): HT - Industry (Seasonal) | Rs./kVA/Month | 391.00 | 7.34 | 0.37 | 7.71 |
| HT II : HT - Commercial | Rs./kVA/Month | 391.00 | 11.73 | 0.37 | 12.10 |
| HT III : HT - Railways/Metro/Monorail Traction | Rs./kVA/Month | 391.00 | 7.00 | 0.37 | 7.37 |
| HT IV: HT - Public Water Works (PWW) | Rs./kVA/Month | 391.00 | 6.30 | 0.37 | 6.67 |
| HT V(A): HT - Agriculture - Pumpsets | Rs./kVA/Month | 69.00 | 3.77 | 0.37 | 4.14 |
| HT V(B): HT - Agriculture - Others | Rs./kVA/Month | 69.00 | 5.20 | 0.37 | 5.57 |
| HT VI: HT - Group Housing Societies (Residential) | Rs./kVA/Month | 313.00 | 5.82 | 0.37 | 6.19 |
| HT VIII(A): HT - Temporary Supply Religious (TSR) | Rs./kVA/Month | 418.00 | 3.75 | 0.37 | 4.12 |
| HT VIII(B): HT - Temporary Supply Others (TSO) | Rs./kVA/Month | 391.00 | 12.00 | 0.37 | 12.37 |
| HT IX(A): HT - Public Services-Government | Rs./kVA/Month | 391.00 | 7.90 | 0.37 | 8.27 |
| HT IX(B): HT - Public Services-Others | Rs./kVA/Month | 391.00 | 9.70 | 0.37 | 10.07 |
| HT X: HT – Electric Vehicle Charging Station | Rs./kVA/Month | 70.00 | 5.63 | 0.37 | 6.00 |
| **HT Category - 11 kV** | | | | | |
| HT I (A) (i): HT - Industry | Rs./kVA/Month | 391.00 | 7.07 | 0.76 | 7.83 |
| HT I (B): HT - Industry (Seasonal) | Rs./kVA/Month | 391.00 | 7.34 | 0.76 | 8.10 |
| HT II : HT - Commercial | Rs./kVA/Month | 391.00 | 11.73 | 0.76 | 12.49 |
| HT III : HT - Railways/Metro/Monorail Traction | Rs./kVA/Month | 391.00 | 7.00 | 0.76 | 7.76 |
| HT IV: HT - Public Water Works (PWW) | Rs./kVA/Month | 391.00 | 6.30 | 0.76 | 7.06 |
| HT V(A): HT - Agriculture - Pumpsets | Rs./kVA/Month | 69.00 | 3.77 | 0.76 | 4.53 |
| HT V(B): HT - Agriculture - Others | Rs./kVA/Month | 69.00 | 5.20 | 0.76 | 5.96 |
| HT VI: HT - Group Housing Societies (Residential) | Rs./kVA/Month | 313.00 | 5.82 | 0.76 | 6.58 |
| HT VIII(A): HT - Temporary Supply Religious (TSR) | Rs./kVA/Month | 418.00 | 3.75 | 0.76 | 4.51 |
| HT VIII(B): HT - Temporary Supply Others (TSO) | Rs./kVA/Month | 391.00 | 12.00 | 0.76 | 12.76 |
| HT IX(A): HT - Public Services-Government | Rs./kVA/Month | 391.00 | 7.90 | 0.76 | 8.66 |
| HT IX(B): HT - Public Services-Others | Rs./kVA/Month | 391.00 | 9.70 | 0.76 | 10.46 |
| HT X: HT – Electric Vehicle Charging Station | Rs./kVA/Month | 70.00 | 5.24 | 0.76 | 6.00 |

## 9.25. Power Factor Incentives/Penalty

### *MSEDCL's Submission*

9.25.1. Petitioner submitted that, considering the fact that, MSEDCL has proposed kVAh based billing for HT category consumers, the pf Incentives and Penalties for HT Category shall be withdrawn. Petitioner has proposed, no changes in existing provision of pf incentive/penalty for LT category consumers, also the said incentive would be provided to the eligible consumers subject to prompt payment.

9.25.2. Further, Regulation 2 of Part IV of Grid Connectivity Standards of the CEA (Technical Standards for Connectivity to the Grid) Regulations, 2007, are applicable to the Distribution System and Bulk Consumers, which specifies pf, limit 0.95. The present provisions of the MYT Order penalises electricity user for maintaining pf below 0.9 and provides incentive above 0.95.

9.25.3. In view of the above, Petitioner has submitted that, the consumers need to maintain pf between 0.95 lag - 0.95 lead for system security. Further, the agriculture (AG) consumers are not covered in above penalty clause, the Commission has already ruled that the cost of the capacitors has to be borne by the AG consumers and these consumers are not keen to install capacitors at their motors.

### *Commission's Analysis and Rulings*

9.25.4. Since the first Tariff Order issued in year 2000, power factor incentive / penalty is included in retail tariff for incentivising the consumers to take corrective measures of improving their power factor. As per current Tariff Order, 7% rebate in monthly electricity bill amount is provided for achieving unity power factor.

9.25.5. Over the period, consumers in Maharashtra have taken appropriate measures to maintain their power factor near Unity. This helps the consumers and the Distribution Licensee as the consumers get rebate in their monthly electricity bill while the Licensee observes improvement in system power factor.

9.25.6. Though PF Incentive mechanism encourages the consumer to improve its lagging power factor and maintain it to unity, there are cases of over compensation causing leading power factor. There is no clarity about leading power factor in existing Tariff Order. As is the case with lagging power factor, higher magnitude of leading power factor is also not desirable. Therefore, the Commission introduces penalty for leading power factor also. This penalty will be applicable from prospective effect.

9.25.7. The Commission also notes that two Distribution Licensees in the State i.e. Maharashtra State Electricity Distribution Co. Ltd and Tata Power Co. Ltd in their respective MTR Petition have proposed to implement kVAh based billing as an alternative to present PF Incentive / Penalty mechanism. The Commission is of the opinion that after implementing PF incentive / penalty mechanism for several decades, one needs to move towards kVAh billing which holds the consumer using the system responsible for maintaining its own power factor. However, such shift needs to be gradual so that all stakeholder including consumers and distribution licensee get sufficient time to transition into the new billing system.

9.25.8. As a first step towards the implementation of kVAh billing system, which is devoid of any separate incentive / penalty for power factor, the Commission has decided to reduce the existing PF Incentive / Penalty by 50%. Accordingly, maximum PF Incentive, which is 7% at Unity power factor, has been reduced to 3.5%. Similar reduction has been made in the Penalty for lower power factor. Details of PF Incentive / Penalty is given in the corresponding Tariff Schedule.

9.25.9. The Commission intends to implement kVAh billing to all HT consumer and LT consumers having load above 20 kW from 1 April, 2020. All Distribution Licensees in State are required to take necessary steps such as meter replacement, if required, preparedness of billing software etc. In addition, wherever possible, Distribution Licensee shall start collecting category-wise energy consumption details in kVA terms and submit it during the next Tariff determination process.

## 9.26. Load Factor Incentive

### *MSEDCL's Submission*

9.26.1. Petitioner submitted that, the Commission vide its Tariff Order dated 10 March, 2004 in Case No. 2 of 2003, had introduced Load Factor Incentives for consumers under HTP-I and HTP-II category with an objective of reducing the costs of high consumption industrial consumers and also ensuring that theses consumers will be retained by MSEB.

9.26.2. In order, to incentivise such high consumption consumers, who also contributes a steady load to MSEDCL's, the Commission introduced a Load Factor (LF) incentive for consumers having LF for consumers having LF above 75% based on their Contract Demand.

a. LF over 75% upto 85%: Rebate of 0.75% for every 1% rise.

b. LF over 85%: rebate of 1% for every 1% rise subject to ceiling of 15%.

9.26.3. Petitioner further submitted that, the ceiling of 15% is on a higher side, various SERCs in other States have given very low or no incentives for LF. Thus, Petitioner has proposed that, the present ceiling of 15% may be reduced to 7% for all the categories to whom LF incentive is applicable, since, rationalisation of energy charge, including bulk consumption rebate on incremental consumption and revision in billing demand will act as a motive for consumers to efficiently plan and utilise the power.

9.26.4. Petitioner has proposed the applicability of LF incentive as under:

a. LF above 80% and upto 84%: incentive of 0.5% of the Energy Charges for every 1% rise in LF from 80% to 84%.

b. Consumers having LF above 84%: incentive of 0.75% on the Energy Charge for every 1% rise in LF from 84%.

c. The total incentive will be subject to a ceiling of 7% of Energy Charges applicable to the consumer.

9.26.5. Petitioner has submitted that, in order to improve the liquidity if MSEDCL, other incentives such as PF Incentive, Bulk Supply Discount, New Consumer incentive, etc. are proposed to be linked to Prompt Payment by the consumer in line with the LF incentives.

***Commission's Analysis and Rulings***

9.26.6. Load Factor Incentive (up to 15% of energy charge) has been introduced by the Commission for incentivising bulk consumers in the State to maintain steady demand on the system. However, Load Factor Incentive is not applicable in a month when Billing Demand exceeds the Contract Demand. As definition of Billing Demand excludes the demand recorded during the off peak hours of 2200 to 0600, and considering rebate in ToD tariff applicable at off-peak hours, the consumers tend to exceed their contract demand during this period while paying a small amount towards contract demand penalty while availing Load Factor Incentive.

9.26.7. In order to avoid such misuse of the provision, the Commission, in its Tariff Order, has stipulated that if a consumer exceeds its Contract Demand in more than three occasions in a Calendar Year, the Distribution Licensee may take corrective action of restating Contract Demand as per Supply Code Regulations, 2005. However, as per provision of Supply Code Regulation, 2005, contract demand can be restated only on receiving an application from the consumer in this respect. The Commission has come across the cases wherein consumers have refused to cooperate with the Distribution Licensee for restating their Contract Demand.

9.26.8. In order to ensure secure operation of electricity grid, it is critical that every constituent of the system acts within its assigned boundaries. Intentional violation of Contract Demand limit by individual consumer for its own financial gain may lead to a system failure, which may affect other consumers. Hence, the Commission is constrain to restrict the Load Factor Incentive to only those consumers who do not exceed their Contract Demand during the month.

9.26.9. Accordingly, the Commission ruled that Load Factor Incentive should not be applicable for the month if the consumer exceeds its Contract Demand in that month. Further, the Consumers exceeding Contract demand during the off-peak hours (2200 hrs to 0600 hrs) would also not be eligible for Load factor Incentive for that month.

**9.27. Incentive for Online Payment for LT Category Consumers**

***MSEDCL's Submission***

9.27.1. As a part of promotion of payment through Digital means, MoP, Government of India (GoI) and Government of Maharashtra (GoM) has informed MSEDCL being Public Sector Utility (PSU) to initiate steps to encourage the consumers for using online platforms. MSEDCL has enabled the online payment facility for its consumers, since 2005, at present; MSEDCL has activated all modes of online payments facilities for its consumers, which has shown the increasing trend since last year. The Government will reimburse the same to the banks for a period of two years, starting from 1 January, 2018.

9.27.2. Petitioner has submitted that, in order to boost Digital Payments, the Union Cabinet has decided to waive the Merchant Discount Rate (MDR) applicable on all Debit Cards, BHIM and UPI transactions upto Rs. 2000. In view of above, Petitioner has proposed a discount of 0.5% on the bill amount for LT category consumers. This incentive shall be applicable, if the consumers makes full payment of the bill within due date and has no previous arrears. As regards, for HT consumers, 95% of amount of HT consumers is already received through RTGS/NEFT mode, hence no discount is proposed for HT consumers.

9.27.3. Petitioner has requested the Commission to allow the same to be recovered through ARR.

***Commission's Analysis and Rulings***

9.27.4. The Commission has taken a note of the Petitioner's submission, further the Commission is aware of the Government of India's initiatives, which has been encouraging digitization across various areas including monetary transactions. Thus, in order to support the initiatives of the Government, a discount of 0.25% of the monthly bill (excluding taxes and duties), subject to a cap of Rs. 500/-, shall be provided to LT category consumers for payment of electricity bills through various modes of digital payment such as credit cards, debit cards, UPI, BHIM, internet banking, mobile banking, mobile wallets, etc.

## 9.28. Mode for Communication

9.28.1. The Commission notes that the Hon'ble High Court of Judicature at Mumbai in its Order in the matter of Notice No. 1148 of 2015 in Execution Application No. 1196 of 2015 dated 11 June, 2018 has taken on record the Whatsapp message sent to serve notice on the Respondent and ruled that the same is sufficient for the purposes of service of Notice. The relevant portion of the Order is reproduced below:

> *"2. The Claimants have also learnt that the Respondent resides at Nalasopara in a place which he seems to have taken on rent. The Claimant will furnish the particulars of address so that a warrant, if necessary can be issued against him.*
> *3.* ***In the meantime, the present Notice is made absolute.***
> *4.* ***A print-out of the WhatApp message is taken on record*** *and marked "N" for identification with today's date. The second print out is of the WhatsApp contact number of the Respondent. This shows his contact number. This is also*

*taken on record and marked "N2" for identification with today's date.* ***This is sufficient for the purposes of service of Notice under Order XXI Rule 22****.*
*5.* ***By way of abandon caution and so that it remains a part of the record a scan of the print outs is attached to this order as well****."*

9.28.2. The Commission notes that serving of Notices to the consumers through digital medium such as Whatsapp message, email, SMS etc. will not only be environment friendly and save administrative cost but also free the human resources for other consumer service related works. Hence, the Commission allows the Distribution Licensee to issue notice under Section 56 of the Electricity Act, 2003 through digital mode such as Whatsapp message, email, SMS etc. The Licensee can also use the digital medium of communication for issuing other information to the consumers including information regarding billing, outstanding payment, outage details, etc. There is also a need to create awareness regarding this provision and accordingly, the consumer needs to be made aware of this by informing him through various means of communication including messages on bills, and other means of publicity.

**9.29. Incentives and Disincentives**

***Power Factor Incentives***

9.29.1. Applicable for HT-I :Industry, HT II - Commercial, HT-III: Railways, Metro & Monorail, HT-IV : PWW, HT-V: Agriculture, HT-VI: Group Housing Society, HT VIII - Temporary Supply, HT IX: Public Service HT X: Electric Vehicles Charging Station, LT II: Non-Residential/Commercial [LT II (B), LT II (C)], LT III: Public Water Works , LT V (A) (ii): Industry – Powerlooms (above 20 kW) , LT V (B) (ii): Industry – General (above 20 kW), LT X : Public Services [LT X (A) (ii) , LT X (A) (iii) , LT X (B) (ii) and LT X (B) (iii) categories. Applicable for HT I: HT- Industry and HT II: HT- Commercial categories as well as LT II (B): LT- Commercial (above 20 kW), LT III (B): LT- Industry (above 20 kW) categories and LT XI: Electric Vehicle Charging Stations

9.29.2. Whenever the average Power Factor is more than 0.95 lag and upto 1, an incentive shall be given at the rate of the following percentages of the amount of the monthly electricity bill, excluding Taxes and Duties:

**Table 9-30: Power Factor Incentive approved for FY 2018-19 and FY 2019-20**

| Sr. No. | Range of Power Factor | Power Factor Level | Incentive |
|---|---|---|---|
| 1 | 0.951 to 0.954 | 0.95 | 0% |
| 2 | 0.955 to 0.964 | 0.96 | 0.5% |
| 3 | 0.965 to 0.974 | 0.97 | 1.0% |
| 4 | 0.975 to 0.984 | 0.98 | 1.5% |
| 5 | 0.985 to 0.994 | 0.99 | 2.5% |
| 6 | 0.995 to 1.000 | 1.00 | 3.5% |

*Note: Power Factor shall be measured/computed upto 3 decimals, after universal rounding off*

***Power Factor Penalty***

9.29.3. Applicable for HT-I :Industry, HT II - Commercial, HT-III: Railways, Metro & Monorail, HT-IV : PWW, HT-V: Agriculture, HT-VI: Group Housing Society, HT VIII - Temporary Supply, HT IX: Public Service HT X: Electric Vehicles Charging Station, LT II: Non-Residential/Commercial [LT II (B), LT II (C)], LT III: Public Water Works , LT V (A) (ii): Industry – Powerlooms (above 20 kW) , LT V (B) (ii): Industry – General (above 20 kW), LT X : Public Services [LT X (A) (ii) , LT X (A) (iii) , LT X (B) (ii) and LT X (B) (iii) categories. Applicable for HT I: HT- Industry and HT II: HT- Commercial categories as well as LT II (B): LT- Commercial (above 20 kW), LT III (B): LT- Industry (above 20 kW) categories and LT XI: Electric Vehicle Charging Stations

9.29.4. Whenever the average PF is less than 0.9 (lag or lead), penal charges shall be levied at the rate of the following percentages of the amount of the monthly electricity bill, excluding Taxes and Duties:

**Table 9-31: Power Factor Penalty approved for FY 2018-19 and FY 2019-20**

| Sr. No. | Range of Power Factor | Power Factor Level | Penalty |
|---|---|---|---|
| 1 | 0.895 to 0.900 | 0.90 | 0% |
| 2 | 0.885 to 0.894 | 0.89 | 1.0% |
| 3 | 0.875 to 0.884 | 0.88 | 1.5% |
| 4 | 0.865 to 0.874 | 0.87 | 2.0% |
| 5 | 0.855 to 0.864 | 0.86 | 2.5% |
| 6 | 0.845 to 0.854 | 0.85 | 3.0% |
| 7 | 0.835 to 0.844 | 0.84 | 3.5% |
| 8 | 0.825 to 0.834 | 0.83 | 4.0% |
| 9 | 0.815 to 0.824 | 0.82 | 4.5% |
| 10 | 0.805 to 0.814 | 0.81 | 5.0% |
| ... | ... | ... | ... |

*Note: Power Factor shall be measured/computed up to 3 decimals, after universal rounding off.*

### 9.30. Prompt Payment Discount

9.30.1. A prompt payment discount of one percent of the monthly bill (excluding Taxes and Duties) shall be provided to consumers for payment of electricity bills within 7 days from the date of their issue.

### 9.31. Delayed Payment Charges

9.31.1. In case the electricity bills are not paid within the due date mentioned in the bill, DPC of 1.25% on the total amount of the electricity bill (including Taxes and Duties) shall be levied. However, if a consumer makes part payment of a bill within the due date, the DPC shall apply only on the amount, which was not paid within the due date.

### 9.32. Rate of Interest on Arrears

9.32.1. The rate of interest chargeable on payment of arrears will be as shown under:

**Table 9-32: Rate of Interest on Arrears, as approved for FY 2018-19 and FY 2019-20**

| Sr. No. | Delay in Payment (Months) | Interest Rate p.a. (%) |
|---|---|---|
| 1 | Payment made after 60 days and before 90 days from the date of billing. | 12% |
| 2 | Payment made after 90 days and up to 180 days from the date of billing. | 15% |
| 3 | Payment made after 180 days from the date of billing | 18% |

### 9.33. Pass-through of variations in cost of power purchase

9.33.1. In case of any variation cost of power purchase, MSEDCL will pass on the corresponding increase to the consumers through the Fuel Adjustment Charge (FAC) component of the Z-factor Charge (ZFAC), as an adjustment in its Tariff on a monthly basis under the existing FAC mechanism, subject to the condition that the overall monthly ZFAC shall not exceed 20% of the variable component of tariff or such other ceiling as may be stipulated by the Commission from time to time.

## 9.34. Vetting of Fuel Adjustment Charge levied on Consumers

9.34.1. The levy of ZFAC charged to different consumers and the Commission on a post-facto basis, considering the submissions made by MSEDCL, will vet the under- recovery/over-recovery of the corresponding costs. MSEDCL should submit the ZFAC computations and details of under-recovery/over-recovery of fuel cost variations on a quarterly basis, within 60 days of the close of each quarter, for post-facto approval.

## 9.35. Stand-by Charges from Mumbai Distribution Licensees and Indian Railways

***MSEDCL's Submission***

**Standby Charges for CPPs**

9.35.1. Petitioner has submitted that, the origin of levy of additional standby demand charges is in the Commission's Order dated 8 September, 2004 in Case No. 55 and 56 of 2003 ('the CPP Order), wherein it provided power purchase and other dispensation for fossil fuel based Captive Power Plants (CPPs). Further, the Commission has allowed the recovery of additional demand charges from embedded CPPs through its respective Tariff Orders.

9.35.2. Petitioner further submitted that, the Standby Charges for CPP have been determined 14 years back considering the then prevailing power supply situation. In the past and as per Tariff Order, in Case No. 48 of 2016 dated 3 November, 2016, the Commission had approved additional standby charges of Rs. 20/kVA is charged to embedded CPP holders. These charges are continued and are on lower side in comparison to capacity payment made by MSEDCL for serving the standby contracted capacity.

9.35.3. Over the period, it was observed that, a CPP Unit gets tripped due to faults resulting in drawl of power from MSEDCL. This has resulted in over drawl of power from the Grid by MSEDCL, which also affects the Grid of the State as well as has financial impacts on MSEDCL in terms of deviation charges. As CPPs do not have any obligations towards maintaining Grid Stability, which may result in Grid instability and increase in voltage level losses. Thus, the Commission may take suitable measures to ensure that such instances of over drawl by CPP's

9.35.4. As per the existing dispensation, MSEDCL can charge additional demand charges on embedded CPP consumers, when it is being only utilized and only to the extent of use.

However, MSEDCL has to plan its power purchase to cater such additional demands on account of unplanned shutdown of CPP are computed then it works out to be very miniscule and does not provide any price signals. Thus, MSEDCL has proposed following treatment considering existing conditions.

<table>
<tr><th>Particulars</th><th>Energy Charges</th><th>Demand Charges on Standby contracted capacity</th><th>Penal Additional Demand Charges</th></tr>
<tr><td>When Standby Demand is utilised</td><td>-</td><td>75% of applicable demand charges on Standby Contracted Capacity</td><td>-</td></tr>
<tr><td colspan="4">When Standby demand is utilised</td></tr>
<tr><td>Planned Shutdown</td><td>Energy Charge as approved in Tariff Order for relevant category</td><td>As approved in Tariff Order for relevant category on total contracted Standby Capacity (on monthly basis)</td><td rowspan="2">2 times of Demand Charges (on monthly basis) in force.</td></tr>
<tr><td>Unplanned Shutdown</td><td>1.5 times applicable energy charges</td><td>1.5 times approved Demand Charges in Tariff Order for relevant category on total contracted Standby Capacity (on monthly basis)</td></tr>
</table>

**<u>Standby Charges for SEZ and Deemed Licensees</u>**

9.35.5. Petitioner submitted that, many SEZ and Deemed Licensees do not have any Standby arrangement and requested the Commission to make it compulsory for making Standby arrangement for supply of power in case of failure of the source generator; during such scenario, these consumers would draw power from the grid. In order to maintain the grid stability and optimise the cost to be incurred by MSEDCL. Further, tariff to be levied in such Standby arrangement shall be applicable similar to dispensation provided for CPP in the aforesaid paragraphs.

***Commission's Analysis and Rulings***

9.35.6. In the MTR Orders for the three Mumbai Distribution Licensees, viz. Tata Power Co. Ltd. (Case No. 69 of 2018), Reliance Infrastructure Ltd. (Case No. 200 of 2017) and BEST (Case No. 203 of 2017), the Commission has decided their Stand-by Demand contribution based on average Coincident Peak Demand (CPD) and Non-coincident Peak Demand (NCPD) used for sharing the Total Transmission System Charges.

9.35.7. Further, with reference to the Commission rulings in Case No. 53 of 2017 in the matter of review of the Stand-by Arrangement with MSEDCL, for the Mumbai Distribution area, and related issues, the Commission has decided that, the share of Stand-by charges would now be shared amongst the Indian Railways (Mumbai Area) and rest other three Mumbai Distribution Licensees, the relevant extract of the rulings are under:

> *"21. ……The Base TCR of Indian Railways for the remaining years of the Control Period, i.e., FY 2017-18 to FY 2019-20, has been projected by escalating that capacity by the historical growth rate of consumption of Indian Railways. Indian Railways' share in the average of CPD and NCPD in each year, which is the basis for its contribution to the TTSC, has been derived accordingly**. However, in the InSTS Tariff Order, the Indian Railways' share in the average of CPD and NCPD has not been segregated a between the Mumbai System and the rest of Maharashtra.***
>
> *22. **In the absence of such segregation, in the present Order, the Commission has not determined Indian Railways' share in the Stand-by Charges payable by the Mumbai Distribution Licensees to MSEDCL for its stand-by support**. ……*
>
> *23**. Based on the data provided by MSLDC, MSEDCL shall quantify the Stand-by Charges payable by the Mumbai Distribution Licensees, including Indian Railways to the extent of its operations in the Mumbai System, and include its proposal in its Mid-Term Review (MTR) Petition**. **For the past period, Indian Railways shall pay its share of Stand-by Charges to MSEDCL within a month of its determination by the Commission, for adjustment against the amounts payable by the other Mumbai Distribution Licensees to MSEDCL or other modality as may be approved by the Commission in its forthcoming MTR Order. Considering the circumstances of the matter, this amount shall not attract interest." (Emphasis added)***

9.35.8. In view of above rulings, and based on the revised average CPD and NCPD (Base TCR) as approved in the latest InSTS Tariff Order dated 12 September, 2018 in Case No. 265 of 2018, the Commission has determined the share of these three Licensees and Indian Railways (Mumbai Area) in the Stand-by charges for FY 2018-19 and FY 2019-20.

**Table 9-33: Stand-by Charges for FY 2018-19 and FY 2019-20, as approved by Commission**

| Distribution Licensee | Base TCR | % of Share of Mumbai Utilities & IR | Annual Share of Stand-by Charges (Rs. Crore) | Per Month Share of Stand-by Charges (Rs. Crore) |
|---|---|---|---|---|
| **FY 2018-19** | | | | |
| TPC-D | 824.80 | 25.19% | 99.76 | 8.31 |
| Rinfra-D | 1,495.59 | 45.68% | 180.90 | 15.08 |
| BEST | 851.19 | 26.00% | 102.96 | 8.58 |
| IR (Mumbai Area) | 102.35 | 3.13% | 12.38 | 1.03 |
| **Total** | **3,273.93** | **100.00%** | **396.00** | **33.00** |
| **FY 2019-20** | | | | |
| TPC-D | 843.71 | 24.95% | 98.82 | 8.23 |
| Rinfra-D | 1,556.59 | 46.04% | 182.32 | 15.19 |
| BEST | 876.31 | 25.92% | 102.64 | 8.55 |
| IR (Mumbai Area) | 104.40 | 3.09% | 12.23 | 1.02 |
| **Total** | **3,381.00** | **100.00%** | **396.00** | **33.00** |

9.35.9. Further, as highlighted in the above extract, the Commission has worked out the past period Stand-by Charges based on the segregated CPD and NCPD data from December 2015 to FY 2017-18 of Indian Railways provided by MSLDC, which amounts to Rs. 27.35 Crore. The same has to be compensated by Indian Railways to TPC-D, in three equal monthly instalments without interest not later than December 2018.

9.35.10. As regards, the Standby Charges to CPPs, the Commission has already determined the Stand-by charges of Rs. 20/kVA for the embedded CPPs. The Commission notes that the same said charges, which has been worked in the past, might require some revision. The same shall be taken up during next MYT Order for the new Control Period. In addition, the Commission would like to highlight that Petitioner’s claim for the levy of Stand-by charges will not be justified, since the standalone CPP generators in no way have any connection with MSEDCL’s network, though they are connected to a common grid.

9.35.11. However, in case of drawl from the grid takes place, the CPP generators itself would have to pay penalty in terms of Deviation Charges, whereas the CPPs who are directly connected to the MSEDCL's Distribution network and wheels power in case of shutdown of plant, MSEDCL can rightly charge penalty for the extra wheeled energy also, the same embedded consumers are already being paying their Stand-by charges as defined under Tariff Schedule for the respective voltage levels. In view of above facts, the Stand-by Charges will not be levied to the Standalone CPP generators.

9.35.12. Further, as regards the Stand-by Charges for SEZ and Deemed Licensees, the Commission would like to highlight that, many of the Deemed Distribution Licensees have their own Stand-by arrangements, where the demand is fulfilled by DG Sets installed in different premises of their Licensee area. Thus, as such these Deemed Licensees have not shown their concerns or requirement for the Stand-by arrangement. If, in case there is any requirement raised before MSEDCL, the Licensee can sell the power as per the Short Term Rates inclusive of other applicable charges to the Licensee. In view of above facts, the Stand-by Charges will not be levied to the SEZ and Deemed Licensee.

**9.36. Adoption of Gross Metering instead of Net-metering for Solar Rooftops**

***MSEDCL's Submission***

9.36.1. MSEDCL stated that, due to gradual decrease in the PV module costs; consumers whose consumption falls in higher tariff bracket such as Residential and Industrial etc. (subsidizing consumers) prefer the Net-Metering facility. Installations of solar rooftop by them bring them to lower consumption bracket and in subsidized tariff category; thereby killing MSEDCL's revenue as more and more consumers would become subsidized instead of subsidizing. As of now around 65% of residential consumption is in 0-100 units bracket which is subsidized (for FY 17-18: ABR-Rs.4.87 per unit, ACOS: Rs.6.63 per unit) and with Net metering it will further increase. This has resulted into loss of the Cross Subsidy, which will be passed on to the other consumers of MSEDCL, thereby increasing the retail tariff.

9.36.2. The Commission has issued the MERC (Net Metering for Rooftop Systems) Regulations 2015 on 10 September, 2015. As provided in the said Regulations, MSEDCL has been allowing the Net Metering in its area of supply to the eligible consumers.

9.36.3. MSEDCL further submitted that, certain provisions of the said Regulations are causing financial loss to MSEDCL. MSEDCL vide its Letter No. SE/TRC/14809 dated 17 June 2017 and Letter No SE/TRC/15196 dated 20 June 2017 has already conveyed its comments and suggestions to reduce the severe financial impact on MSEDCL.

9.36.4. In view of above submissions, MSEDCL has suggested a shift towards Gross Metering from Net Metering. The Gross Metering will help to keep the Utility sales intact and in turn the cross subsidy also. Since, there would not be any reduction in sales of the subsidising consumers, MSEDCL would not lose the revenue as well as cross subsidy provided by these subsidising consumers. Thus, there will not be any impact on the low-end consumer tariffs.

9.36.5. MSEDCL further submitted that, the Tariff difference between consumer tariff and levelised cost of energy generated is major driving factor for adoption of Net Metering. As retail Tariff for low-end residential and agricultural consumers is low, there is no incentive for them to opt for Net Metering. Gross Metering provides level playing field to all consumers for installation of roof top systems and since more than 80% consumers are subsidised, gross metering will help reaching them.

9.36.6. MSEDCL referred to some case studies related to international experience of adoption net-metering facility, having considerable impact on the low-end consumers, as well as the Licensee, MSEDCL requested the Commission to consider providing Gross Metering arrangement over Net Metering Arrangement in order to reduce the impact on Retail Tariff.

9.36.7. MSEDCL further suggested that, the cumulative capacity to be allowed at a particular distribution transformer should not exceed 15% of the peak capacity of the distribution transformer instead of present 40% and maximum capacity limit of 50% of consumer has sanctioned load/contract demand for individual roof top installation need to be added in the Principal Regulations.

9.36.8. Implementation of net metering based rooftop solar system will require clarity on the energy accounting & commercial settlement for electricity consumed from rooftop solar system as well as excess injected into the grid. Given the fact that such systems could also be third party owned, regulatory clarity will be required on cost implication on MSEDCL.

9.36.9. Further, in order to address concerns of connectivity of Solar Net Metering of changeover consumers, the Commission issued practice directions vide notification dated 30 September, 2016. As per practice directions, the Supply Licensee is required to pay the wheeling charges for a particular financial year and corresponding to the unadjusted net credited units of electricity at the end of that year, to the Wire Licensee. The Commission while determining the respective ARR of Supply Licensee will consider such Payment.

9.36.10. MSEDCL stated that, for accounting all rooftop consumers too for power purchase bucket. So irrespective of whether the consumer consumes power from MSEDCL grid or not, the petitioner has to make the necessary arrangements in place in terms of power purchase, infrastructure etc. for which it needs to be compensated. Therefore, MSEDCL proposed that, Commission allows a certain amount of charge per unit to be made payable to MSEDCL by the rooftop user. Such charge needs to compensate wheeling charges to be payable by respective users availing Net Metering facility. Hence, MSEDCL requested the Commission to allow MSEDCL to levy following wheeling charges on rooftop energy consumption.

***Commission's Rulings***

9.36.11. The Commission has taken a note of the Petitioner's submission regarding the issues pertaining to Net-metering arrangement. Commission observes that, the above highlighted issue is specifically linked to the provisions stipulated under the MERC (Net-Metering for Solar-Rooftop Photo Voltaic System) Regulations, 2015 and the entails modification/review of Net Metering framework upon due regulatory consultation process. Thus, the submissions of Petitioner cannot be addressed under the present MTR process initiated in pursuance of the MYT Regulations, 2015.

**9.37. Cross-Subsidy Surcharge**

***MSEDCL's Submission***

9.37.1. Section 2 (47) of the EA, 2003 defines "Open Access", while Section 42 of the said Act inter-alia mandates the Distribution Licensee to provide Open Access to eligible consumers, subject to payment of "Cross Subsidy Surcharge", "Additional Surcharge" and other applicable charges. Section 86(1) mandates the Commission to determine the CSS and other Charges.

9.37.2. The National Electricity Policy as stipulated by the Central Government provides that:

> "Under sub-section (2) of Section 42 of the Act, a surcharge to be levied by the respective State Commissions on consumers switching to alternate supplies under Open Access. This is to compensate the host distribution licensee serving such consumers who are permitted Open Access under Section 42(2), for Cross Subsidy element built into the tariff of such consumers…"

9.37.3. The CSS formula stipulated in the revised Tariff Policy notified on 28 January, 2016, is as follows:

> $S = T - [C / (1 - L/100) + D + R]$
> Where,
> S is the surcharge
> T is the tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation (RPO)
> C is the unit weighted average cost of power purchase by the Licensee, including meeting the RPO
> 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.

**Table 9-34: Computation of C for FY 2018-19 and FY 2019-20, as submitted by MSEDCL**

| Financial Year | Details of Power Purchase | | |
|---|---|---|---|
| | MUs | Rs. Crore* | Rs/kWh |
| FY 2018-19 | 1,28,940 | 49,706 | 3.85 |
| FY 2019-20 | 1,31,183 | 51,813 | 3.95 |
| * Power Purchase Cost is excluding the PGCIL transmission Charges | | | |

**Table 9-35: Computation of System Losses for FY 2018-19 and FY 2019-20, as submitted by MSEDCL**

| Particulars | EHV Level | 33 kV | 22/11 kV | LT Level |
|---|---|---|---|---|
| Transmission Losses (%) | 3.92% | 3.92% | 3.92% | 3.92% |
| Wheeling Losses (LT) (%) | 0.00% | 6.00% | 9.00% | 12.00% |

| Particulars | EHV Level | 33 kV | 22/11 kV | LT Level |
|---|---|---|---|---|
| **Total System Losses** | **3.92%** | **9.68%** | **12.57%** | **15.45%** |

**Table 9-36: Computation of Wheeling Charge D for FY 2018-19 and FY 2019-20, as submitted by MSEDCL**

| **Wheeling Charges (Rs/Unit*)** | | | | |
|---|---|---|---|---|
| **Particulars** | **EHV Level** | **33 kV** | **22/11 kV** | **LT Level** |
| FY 2018-19 | - | 0.15 | 0.83 | 1.26 |
| FY 2019-20 | - | 0.15 | 0.78 | 1.24 |
| | | | | |
| **Transmission Charges (Rs/Unit*)** | | | | |
| **Particulars** | **EHV Level** | **33 kV** | **22/11 kV** | **LT Level** |
| FY 2018-19 | 0.77 | 0.77 | 0.77 | 0.77 |
| FY 2019-20 | 0.77 | 0.77 | 0.77 | 0.77 |
| | | | | |
| **Wheeling and Transmission Charges (Rs./Unit*)** | | | | |
| **Particulars** | **EHV Level** | **33 kV** | **22/11 kV** | **LT Level** |
| FY 2018-19 | 0.77 | 0.93 | 1.60 | 2.04 |
| FY 2019-20 | 0.78 | 0.92 | 1.56 | 2.02 |

**Rs/kVAh or Rs/kWh as the case may be*

**Table 9-37: Proposed CSS for FY 2018-19 and FY 2019-20, as submitted by MSEDCL (Rs/Unit*)**

| Consumer Category | FY 2018-19 | FY 2019-20 |
|---|---|---|
| **HT Category** | | |
| **HT I(A) (i): HT – Industry** | | |
| 11/22 KV | 4.50 | 4.40 |
| 33 KV | 3.53 | 3.38 |
| EHV | 4.62 | 4.40 |
| **HT I(B) (i): HT - Industry (Seasonal)** | | |

| Consumer Category | FY 2018-19 | FY 2019-20 |
|---|---|---|
| 11/22 KV | 5.84 | 6.04 |
| 33 KV | 6.24 | 6.48 |
| EHV | 9.18 | 9.71 |
| **HT II (A): HT - Commercial** | | |
| 11/22 KV | 10.49 | 10.39 |
| 33 KV | 10.95 | 10.76 |
| EHV | 11.73 | 11.56 |
| **HT III (A): HT - Railways/Metro/Monorail Traction** | | |
| 11/22 KV | 3.68 | 3.56 |
| 33 KV | 5.01 | 4.90 |
| EHV | 6.10 | 5.99 |
| **HT IV: HT - Public Water Works (PWW)** | | |
| 11/22 KV | 2.70 | 2.71 |
| 33 KV | 2.13 | 1.92 |
| EHV | 1.91 | 1.67 |
| **HT V(A): HT - Agriculture Pump sets** | | |
| 11/22 KV | 0.00 | 0.00 |
| 33 KV | 0.00 | 0.00 |
| EHV | 0.61 | 0.54 |
| **HT V(B): HT - Agriculture Others** | | |
| 11/22 KV | 1.39 | 1.26 |
| 33 KV | 1.21 | 1.09 |
| EHV | 1.47 | 1.35 |
| **HT VI: HT - Group Housing Societies (Residential)** | | |
| 11/22 KV | 3.15 | 3.17 |
| 33 KV | 3.59 | 3.47 |
| EHV | 3.84 | 3.73 |
| **HT VIII(B): HT - Temporary Supply Others (TSO)** | | |
| 11/22 KV | 11.40 | 11.29 |
| 33 KV | 10.81 | 10.71 |
| EHV | 9.88 | 10.97 |
| **HT IX(A): HT - Public Services-Government** | | |
| 11/22 KV | 5.06 | 4.65 |
| 33 KV | 5.25 | 4.84 |
| EHV | 5.51 | 5.10 |
| **HT IX(B): HT - Public Services-Others** | | |
| 11/22 KV | 7.68 | 7.48 |
| 33 KV | 7.47 | 7.15 |
| EHV | 6.34 | 6.09 |
| **LT Category** | | |
| **LT-BPL DOMESTIC** | 0.00 | 0.00 |

| Consumer Category | FY 2018-19 | FY 2019-20 |
|---|---|---|
| **LT-DOMESTIC** | | |
| 0-100 | 0.00 | 0.00 |
| 101-300 | 3.81 | 3.69 |
| 301-500 | 6.15 | 6.02 |
| 501-1000 | 7.15 | 7.01 |
| Above 1000 | 8.01 | 7.88 |
| **LT Commercial** | | |
| **LT COMM 0-20 KW** | 5.54 | 5.28 |
| **LT COMM 20-50 KW** | 12.14 | 11.84 |
| **LT COMM > 50 KW** | 15.84 | 15.68 |
| **LT PWW** | | |
| LT-PWW > 40 KW | 1.67 | 1.57 |
| **LT INDUSTRIES** | | |
| **LT IND UPTO 27 HP** | 0.63 | 0.58 |
| LT IND > 27 HP | 5.45 | 5.21 |
| **LT POWERLOOM** | | |
| POWERLOOM UPTO 27 HP | 0.00 | 0.00 |
| POWERLOOM > 27 HP | 1.61 | 1.39 |
| **Street Light** | | |
| **ST.LGT GRAM, A,B&C** | 0.05 | 0.00 |
| ST.LGT MUN. CO. | 1.86 | 1.80 |
| **TEMPORORY CONNECTION** | | |
| TEMP CONN (OTHER) | 11.53 | 11.53 |
| TEMP CONN (RELI) | 0.14 | 0.12 |
| **HORDING AND ADVT.** | 14.85 | 14.21 |
| **CREMATORIUM/BURIAL** | 0.00 | 0.00 |
| **LT-PUBLIC SERVICES** | | |
| **LT-PUB.SER.GOVT** | | |
| **LT-PUB.SER.GOVT- 0-20 KW** | 2.61 | 2.34 |
| LT-PUB.SER.GOVT- 20-50 KW | 6.84 | 6.26 |
| LT-PUB.SER.GOVT- > 50 KW | 6.98 | 6.29 |
| **LT-PUB.SER.OTHER** | | |
| LT-PUB.SER.OTHER 0-20 KW | 6.75 | 6.57 |
| LT-PUB.SER.OTHER- 20-50KW | 7.05 | 6.87 |
| LT-PUB.SER.OTHER- >50KW | 4.39 | 4.13 |

**Rs/kVAh or Rs/kWh as the Case may be*

9.37.4. Petitioner has submitted that as per the provision of Section 42(2) of the EA, 2003, the CSS needs to be based on the current level of cross subsidy. Accordingly, the consumers who opted for Open Access need to be charged for the compensation of current level of cross subsidy, which prevailed during that period and in order to avoid the burden of the same being passed on other consumers who are with the Distribution Licensee.

9.37.5. Petitioner stated that, to examine the issues related to Open Access with issues relating to amendments in provisions relating to Captive Generating Plants in the Electricity Rules, 2005, a Committee was constituted by CEA on the advice of MoP. Petitioner referred the Consultation Paper dated 24 August, 2017 issued by MoP, where it has been proposed that the SERCs should determine the Cross Subsidy based on real Cross Subsidy, the said paper also advocated the implementation of the Tariff Policy, 2016 in a true spirit.

9.37.6. Petitioner has submitted that, the Commission while approving the CSS in its Order in Case No. 48 of 2016, worked out the various components of CSS formulae on the approved values of the 3rd Control Period and computed the consumer category CSS in accordance with the Tariff Policy, 2016. The CSS computed in accordance with the Tariff Policy, 2016 formulae represents the current level of Cross Subsidy. However, the Commission has approved the CSS equal to minimum of the two values: Computed CSS and 20% of tariff. This has resulted in lower CSS applicable than current level of cross subsidy, which also resulted into incomplete recovery of Cross Subsidy from the Open Access Consumers.

9.37.7. In addition to it, OA consumers unduly are benefitted due to less cross subsidy surcharge. As Industrial consumers are subsidising consumers, the more impact gets loaded onto these industrial categories, raising their tariff further. Such increased industrial tariff will lead to more consumers opting for OA, which will further add to revenue deficit, leading to requirement of further tariff hike. Therefore, as a principle, only those consumers who opt for OA during a particular period should pay the CSS for such period to maintain the prevailing level of cross subsidy and should not get loaded onto MSEDCL's consumers at large.

9.37.8. Petitioner further submitted that, there could be no ambiguity with the proposition that CSS is a compensatory charge to the DISCOM. This principle had been accepted by the APTEL in its several judgements passed earlier. In addition to it, CSS is not only to compensate the DISCOM for the loss of Cross Subsidy, it is also to compensate the remaining consumers of the DISCOMs, who have not taken OA, the same has also been held in the APTEL's Judgement dated 2 December, 2013 in Appeal No. 178 of 2011 in "Summary of Findings" Para II.

9.37.9. In view of the above submissions in foregoing paragraphs, MSEDCL requests the Commission to determine the Cross Subsidy Surcharge considering the formula prescribed under Tariff Policy, 2016, without putting any ceiling.

***Commission's Analysis and Rulings***

9.37.10. The Commission has taken a note of the concern raised by MSEDCL and the Stakeholders during the Public Consultation process, regarding the application of ceiling cap of +/- 20% across consumer categories as per the Para. 8.3 (2) of the Tariff Policy, 2016. Further, the Commission also notes the reference to the Consultation Paper issued by MoP in August, 2017 as regards implementation of both Para. 8.3 (2) and first proviso to para 8.5.1. of the Tariff Policy, 2016 simultaneously.

9.37.11. The Commission here would like to highlight that, while working out the CSS, in the previous MYT Order in Case No. 48 of 2016, the basic intent of keeping the cap of +/- 20% was to keep the gradual reduction trend of the cross-subsidy over the ensuing years and determine the tariff as close as to the ACoS as well as keeping the cognizance of avoiding tariff shock all across the consumer categories.

9.37.12. The Commission appreciates the suggestion of the Committee as referred by MSEDCL, however, in the present Order, the Commission has worked out the CSS by keeping the ceiling of +/- 20% for most of the consumer categories in order to maintain the consistency with the principle adopted in the previous MYT Order. In addition, while working out the proposed tariff for FY 2018-19 and FY 2019-20 the overall increase in the HT Category Tariff is 117%, which is already within the cut-off limit of 20%.

9.37.13. Further, the Commission has worked out the various components of CSS formulae based on the approved values for FY 2018-19 and FY 2019-20 and worked out the consumer category-wise CSS for FY 2018-19 and FY 2019-20.

9.37.14. The category-wise CSS computed for FY 2018-19 and FY 2019-20 is as shown under:

**Table 9-38: Cross Subsidy Surcharge approved by Commission for FY 2018-19 as per Tariff Policy, 2016**

| Consumer Category | T | C | L | D = WL + Tx | CSS Computed | 20% of Tariff - (b) | CSS - Min (a,b) |
|---|---|---|---|---|---|---|---|
| | Rs./kWh* | | % | Rs./kWh* | | | |
| **HT Category - EHV (66 kV and above)** | | | | | | | |
| HT I(A) (I): HT – INDUSTRY (GENERAL) | 7.83 | 3.76 | 3.30% | 0.70 | 3.24 | 1.57 | 1.57 |
| HT I(B) (I): HT - INDUSTRY (SEASONAL) | 8.37 | 3.76 | 3.30% | 0.70 | 3.78 | 1.67 | 1.67 |
| HT II (A): HT - COMMERCIAL | 12.61 | 3.76 | 3.30% | 0.70 | 8.02 | 2.52 | 2.52 |
| HT III (A): HT - RAILWAYS/METRO/MONORAIL TRACTION | 8.20 | 3.76 | 3.30% | 0.70 | 3.61 | 1.64 | 1.64 |
| HT IV: HT - PUBLIC WATER WORKS (PWW) | 6.55 | 3.76 | 3.30% | 0.70 | 1.96 | 1.31 | 1.31 |
| HT V(A): HT - AGRICULTURE PUMPSETS | 3.96 | 3.76 | 3.30% | 0.70 | - | 0.79 | - |
| HT IX(B): HT - PUBLIC SERVICES-OTHERS | 10.12 | 3.76 | 3.30% | 0.70 | 5.53 | 2.02 | 2.02 |
| **HT Category - 33 kV** | | | | | | | |
| HT I(A) (I): HT - INDUSTRY | 7.76 | 3.76 | 9.10% | 0.85 | 2.77 | 1.55 | 1.55 |
| HT I(B) (I): HT - INDUSTRY (SEASONAL) | 8.39 | 3.76 | 9.10% | 0.85 | 3.40 | 1.68 | 1.68 |
| HT II (A): HT - COMMERCIAL | 12.63 | 3.76 | 9.10% | 0.85 | 7.65 | 2.53 | 2.53 |
| HT III (A): HT - RAILWAYS/METRO/MONORAIL TRACTION | 8.24 | 3.76 | 9.10% | 0.85 | 3.26 | 1.65 | 1.65 |
| HT IV: HT - PUBLIC WATER WORKS (PWW) | 6.85 | 3.76 | 9.10% | 0.85 | 1.86 | 1.37 | 1.37 |
| HT V(A): HT - AGRICULTURE PUMPSETS | 4.02 | 3.76 | 9.10% | 0.85 | - | 0.80 | - |
| HT V(B): HT - AGRICULTURE OTHERS | 5.33 | 3.76 | 9.10% | 0.85 | 0.34 | 1.07 | 0.34 |
| HT VI: HT - GROUP HOUSING SOCIETIES (RESIDENTIAL) | 6.86 | 3.76 | 9.10% | 0.85 | 1.87 | 1.37 | 1.37 |
| HT VIII(B): HT - TEMPORARY SUPPLY OTHERS (TSO) | 13.06 | 3.76 | 9.10% | 0.85 | 8.07 | 2.61 | 2.61 |
| HT IX(A): HT - PUBLIC SERVICES-GOVERNMENT | 8.82 | 3.76 | 9.10% | 0.85 | 3.83 | 1.76 | 1.76 |
| HT IX(B): HT - PUBLIC SERVICES-OTHERS | 10.77 | 3.76 | 9.10% | 0.85 | 5.78 | 2.15 | 2.15 |
| **HT Category - 22 kV** | | | | | | | |
| HT I(A) (I): HT - INDUSTRY | 8.11 | 3.76 | 10.55% | 1.08 | 2.83 | 1.62 | 1.62 |
| HT I(B) (I): HT - INDUSTRY (SEASONAL) | 8.40 | 3.76 | 10.55% | 1.08 | 3.11 | 1.68 | 1.68 |
| HT II (A): HT - COMMERCIAL | 12.76 | 3.76 | 10.55% | 1.08 | 7.48 | 2.55 | 2.55 |
| HT III (A): HT - RAILWAYS/METRO/MONORAIL TRACTION | 8.17 | 3.76 | 10.55% | 1.08 | 2.89 | 1.63 | 1.63 |
| HT IV: HT - PUBLIC WATER WORKS (PWW) | 7.29 | 3.76 | 10.55% | 1.08 | 2.01 | 1.46 | 1.46 |
| HT V(A): HT - AGRICULTURE PUMPSETS | 4.20 | 3.76 | 10.55% | 1.08 | - | 0.84 | - |

| Consumer Category | T | C | L | D = WL + Tx | CSS Computed | 20% of Tariff - (b) | CSS - Min (a,b) |
|---|---|---|---|---|---|---|---|
| | Rs./kWh* | | % | Rs./kWh* | | | |
| HT V(B): HT - AGRICULTURE OTHERS | 5.60 | 3.76 | 10.55% | 1.08 | 0.31 | 1.12 | 0.31 |
| HT VI: HT - GROUP HOUSING SOCIETIES (RESIDENTIAL) | 6.79 | 3.76 | 10.55% | 1.08 | 1.50 | 1.36 | 1.36 |
| HT VIII(B): HT - TEMPORARY SUPPLY OTHERS (TSO) | 12.98 | 3.76 | 10.55% | 1.08 | 7.69 | 2.60 | 2.60 |
| HT IX(A): HT - PUBLIC SERVICES-GOVERNMENT | 8.77 | 3.76 | 10.55% | 1.08 | 3.48 | 1.75 | 1.75 |
| HT IX(B): HT - PUBLIC SERVICES-OTHERS | 10.73 | 3.76 | 10.55% | 1.08 | 5.45 | 2.15 | 2.15 |
| **HT Category - 11 kV** | | | | | | | |
| HT I(A) (I): HT - INDUSTRY | 9.52 | 3.76 | 12.00% | 1.48 | 3.76 | 1.90 | 1.90 |
| HT I(B) (I): HT - INDUSTRY (SEASONAL) | 10.62 | 3.76 | 12.00% | 1.48 | 4.86 | 2.12 | 2.12 |
| HT II (A): HT - COMMERCIAL | 15.40 | 3.76 | 12.00% | 1.48 | 9.65 | 3.08 | 3.08 |
| HT III (A): HT - RAILWAYS/METRO/MONORAIL TRACTION | 9.85 | 3.76 | 12.00% | 1.48 | 4.10 | 1.97 | 1.97 |
| HT IV: HT - PUBLIC WATER WORKS (PWW) | 7.75 | 3.76 | 12.00% | 1.48 | 1.99 | 1.55 | 1.55 |
| HT V(A): HT - AGRICULTURE PUMPSETS | 5.00 | 3.76 | 12.00% | 1.48 | - | 1.00 | - |
| HT V(B): HT - AGRICULTURE OTHERS | 6.10 | 3.76 | 12.00% | 1.48 | 0.35 | 1.22 | 0.35 |
| HT VI: HT - GROUP HOUSING SOCIETIES (RESIDENTIAL) | 8.27 | 3.76 | 12.00% | 1.48 | 2.52 | 1.65 | 1.65 |
| HT VIII(B): HT - TEMPORARY SUPPLY OTHERS (TSO) | 16.67 | 3.76 | 12.00% | 1.48 | 10.91 | 3.33 | 3.33 |
| HT IX(A): HT - PUBLIC SERVICES-GOVERNMENT | 10.02 | 3.76 | 12.00% | 1.48 | 4.26 | 2.00 | 2.00 |
| HT IX(B): HT - PUBLIC SERVICES-OTHERS | 12.67 | 3.76 | 12.00% | 1.48 | 6.92 | 2.53 | 2.53 |
| **LT Category** | | | | | | | |
| **LT I : RESIDENTIAL** | | | | | | | |
| LT -BPL DOMESTIC | 1.84 | 3.76 | 14.90% | 2.00 | - | 0.37 | - |
| 0-100 | 5.31 | 3.76 | 14.90% | 2.00 | - | 1.06 | - |
| 101-300 | 8.95 | 3.76 | 14.90% | 2.00 | 2.53 | 1.79 | 1.79 |
| 301-500 | 11.57 | 3.76 | 14.90% | 2.00 | 5.15 | 2.31 | 2.31 |
| 501-1000 | 12.06 | 3.76 | 14.90% | 2.00 | 5.64 | 2.41 | 2.41 |
| ABOVE 1000 | 12.87 | 3.76 | 14.90% | 2.00 | 6.45 | 2.57 | 2.57 |
| **LT II : COMMERCIAL** | | | | | | | |
| LT COMM 0-20 KW | 9.06 | 3.76 | 14.90% | 2.00 | 2.64 | 1.81 | 1.81 |
| LT COMM 20-50 KW | 13.14 | 3.76 | 14.90% | 2.00 | 6.72 | 2.63 | 2.63 |
| LT COMM > 50 KW | 15.93 | 3.76 | 14.90% | 2.00 | 9.51 | 3.19 | 3.19 |
| **LT III:  PWW** | | | | | | | |
| LT-PWW > 40  KW | 6.54 | 3.76 | 14.90% | 2.00 | 0.12 | 1.31 | 0.12 |
| **LT V (A) : INDUSTRIES** | | | | | | | |
| LT IND UPTO 27 HP | 6.66 | 3.76 | 14.90% | 2.00 | 0.24 | 1.33 | 0.24 |

| Consumer Category | T | C | L | D = WL + Tx | CSS Computed | 20% of Tariff - (b) | CSS - Min (a,b) |
|---|---|---|---|---|---|---|---|
| | Rs./kWh* | | % | Rs./kWh* | | | |
| LT IND > 27 HP | 9.07 | 3.76 | 14.90% | 2.00 | 2.65 | 1.81 | 1.81 |
| **LT V (B) : POWERLOOM** | 0.00 | 0.00 | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 |
| POWERLOOM UPTO 27 HP | 6.10 | 3.76 | 14.90% | 2.00 | - | 1.22 | -- |
| POWERLOOM > 27 HP | 7.49 | 3.76 | 14.90% | 2.00 | 1.07 | 1.50 | 1.07 |
| **LT VI : STREET LIGHT** | | | | | | | |
| ST.LGT GRAM, A,B&C | 6.05 | 3.76 | 14.90% | 2.00 | - | 1.21 | - |
| ST.LGT MUN. CO. | 7.53 | 3.76 | 14.90% | 2.00 | 1.11 | 1.51 | 1.11 |
| **LT VI : TEMPORORY CONNECTION** | | | | | | | |
| TEMP CONN (OTHER) | 14.95 | 3.76 | 14.90% | 2.00 | 8.53 | 2.99 | 2.99 |
| TEMP CONN (RELI) | 5.96 | 3.76 | 14.90% | 2.00 | - | 1.19 | - |
| **LT VIII : HORDING AND ADVT.** | 17.81 | 3.76 | 14.90% | 2.00 | 11.39 | 3.56 | 3.56 |
| **LT IX : CREMATORIUM/BURIAL** | 4.92 | 3.76 | 14.90% | 2.00 | - | 0.98 | - |
| **LT X (A) : PUB.SER.GOVT** | | | | | | | |
| LT-PUB.SER.GOVT- 0-20 KW | 7.53 | 3.76 | 3.30% | 2.00 | 1.11 | 1.51 | 1.11 |
| LT-PUB.SER.GOVT- 20-50 KW | 8.08 | 3.76 | 3.30% | 2.00 | 1.66 | 1.62 | 1.62 |
| LT-PUB.SER.GOVT- > 50 KW | 9.02 | 3.76 | 3.30% | 2.00 | 2.60 | 1.80 | 1.80 |
| **LT X : PUB.SER.OTHER** | | | | | | | |
| LT-PUB.SER.OTHER 0-20 KW | 9.31 | 3.76 | 3.30% | 2.00 | 2.89 | 1.86 | 1.86 |
| LT-PUB.SER.OTHER- 20-50KW | 9.75 | 3.76 | 3.30% | 2.00 | 3.33 | 1.95 | 1.95 |
| LT-PUB.SER.OTHER- >50KW | 10.03 | 3.76 | 3.30% | 2.00 | 3.61 | 2.01 | 2.01 |

**Table 9-39: Cross Subsidy Surcharge approved by Commission for FY 2019-20 as per revised Tariff Policy, 2016**

| Consumer Category | T | C | L | D = WL + Tx | CSS Computed | 20% of Tariff - (b) | CSS - Min (a,b) |
|---|---|---|---|---|---|---|---|
| | Rs./Unit* | | % | Rs./Unit* | | | |
| **HT CATEGORY - EHV (66 KV AND ABOVE)** | | | | | | | |
| HT I(A) (I): HT - INDUSTRY | 7.88 | 3.80 | 3.30% | 0.75 | 3.21 | 1.58 | 1.58 |
| HT I(B) (I): HT - INDUSTRY (SEASONAL) | 8.43 | 3.80 | 3.30% | 0.75 | 3.76 | 1.69 | 1.69 |
| HT II (A): HT - COMMERCIAL | 12.97 | 3.80 | 3.30% | 0.75 | 8.30 | 2.59 | 2.59 |
| HT III (A): HT - RAILWAYS/METRO/MONORAIL TRACTION | 8.34 | 3.80 | 3.30% | 0.75 | 3.66 | 1.67 | 1.67 |
| HT IV: HT - PUBLIC WATER WORKS (PWW) | 6.64 | 3.80 | 3.30% | 0.75 | 1.97 | 1.33 | 1.33 |
| HT V(A): HT - AGRICULTURE PUMPSETS | 4.10 | 3.80 | 3.30% | 0.75 | - | 0.82 | - |

| Consumer Category | T | C | L | D = WL + Tx | CSS Computed | 20% of Tariff - (b) | CSS - Min (a,b) |
|---|---|---|---|---|---|---|---|
| | Rs./Unit* | | % | Rs./Unit* | | | |
| HT IX(B): HT - PUBLIC SERVICES-OTHERS | 10.33 | 3.80 | 3.30% | 0.75 | 5.65 | 2.07 | 2.07 |
| **HT CATEGORY - 33 KV** | | | | | | | |
| HT I(A) (I): HT - INDUSTRY | 7.95 | 3.80 | 9.10% | 0.90 | 2.87 | 1.59 | 1.59 |
| HT I(B) (I): HT - INDUSTRY (SEASONAL) | 8.58 | 3.80 | 9.10% | 0.90 | 3.50 | 1.72 | 1.72 |
| HT II (A): HT - COMMERCIAL | 13.06 | 3.80 | 9.10% | 0.90 | 7.98 | 2.61 | 2.61 |
| HT III (A): HT - RAILWAYS/METRO/MONORAIL TRACTION | 8.37 | 3.80 | 9.10% | 0.90 | 3.29 | 1.67 | 1.67 |
| HT IV: HT - PUBLIC WATER WORKS (PWW) | 7.04 | 3.80 | 9.10% | 0.90 | 1.96 | 1.41 | 1.41 |
| HT V(A): HT - AGRICULTURE PUMPSETS | 4.18 | 3.80 | 9.10% | 0.90 | - | 0.84 | - |
| HT V(B): HT - AGRICULTURE OTHERS | 5.47 | 3.80 | 9.10% | 0.90 | 0.40 | 1.09 | 0.40 |
| HT VI: HT - GROUP HOUSING SOCIETIES (RESIDENTIAL) | 6.95 | 3.80 | 9.10% | 0.90 | 1.88 | 1.39 | 1.39 |
| HT VIII(B): HT - TEMPORARY SUPPLY OTHERS (TSO) | 13.36 | 3.80 | 9.10% | 0.90 | 8.29 | 2.67 | 2.67 |
| HT IX(A): HT - PUBLIC SERVICES-GOVERNMENT | 9.12 | 3.80 | 9.10% | 0.90 | 4.05 | 1.82 | 1.82 |
| HT IX(B): HT - PUBLIC SERVICES-OTHERS | 10.99 | 3.80 | 9.10% | 0.90 | 5.91 | 2.20 | 2.20 |
| **HT CATEGORY - 22 KV** | | | | | | | |
| HT I(A) (I): HT - INDUSTRY | 8.32 | 3.80 | 10.55% | 1.12 | 2.96 | 1.66 | 1.66 |
| HT I(B) (I): HT - INDUSTRY (SEASONAL) | 8.58 | 3.80 | 10.55% | 1.12 | 3.21 | 1.72 | 1.72 |
| HT II (A): HT - COMMERCIAL | 12.97 | 3.80 | 10.55% | 1.12 | 7.60 | 2.59 | 2.59 |
| HT III (A): HT - RAILWAYS/METRO/MONORAIL TRACTION | 8.41 | 3.80 | 10.55% | 1.12 | 3.05 | 1.68 | 1.68 |
| HT IV: HT - PUBLIC WATER WORKS (PWW) | 7.53 | 3.80 | 10.55% | 1.12 | 2.17 | 1.51 | 1.51 |
| HT V(A): HT - AGRICULTURE PUMPSETS | 4.32 | 3.80 | 10.55% | 1.12 | - | 0.86 | - |
| HT V(B): HT - AGRICULTURE OTHERS | 5.75 | 3.80 | 10.55% | 1.12 | 0.39 | 1.15 | 0.39 |
| HT VI: HT - GROUP HOUSING SOCIETIES (RESIDENTIAL) | 7.02 | 3.80 | 10.55% | 1.12 | 1.66 | 1.40 | 1.40 |
| HT VIII(B): HT - TEMPORARY SUPPLY OTHERS (TSO) | 13.41 | 3.80 | 10.55% | 1.12 | 8.05 | 2.68 | 2.68 |
| HT IX(A): HT - PUBLIC SERVICES-GOVERNMENT | 9.20 | 3.80 | 10.55% | 1.12 | 3.84 | 1.84 | 1.84 |
| HT IX(B): HT - PUBLIC SERVICES-OTHERS | 11.02 | 3.80 | 10.55% | 1.12 | 5.66 | 2.20 | 2.20 |
| **HT CATEGORY - 11 KV** | | | | | | | |
| HT I(A) (I): HT - INDUSTRY | 10.08 | 3.80 | 12.0% | 1.51 | 4.26 | 2.02 | 2.02 |
| HT I(B) (I): HT - INDUSTRY (SEASONAL) | 11.29 | 3.80 | 12.0% | 1.51 | 5.46 | 2.26 | 2.26 |
| HT II (A): HT - COMMERCIAL | 15.94 | 3.80 | 12.0% | 1.51 | 10.12 | 3.19 | 3.19 |

| Consumer Category | T | C | L | D = WL + Tx | CSS Computed | 20% of Tariff - (b) | CSS - Min (a,b) |
|---|---|---|---|---|---|---|---|
| | Rs./Unit* | | % | Rs./Unit* | | | |
| HT III (A): HT - RAILWAYS/METRO/MONORAIL TRACTION | 10.42 | 3.80 | 12.0% | 1.51 | 4.60 | 2.08 | 2.08 |
| HT IV: HT - PUBLIC WATER WORKS (PWW) | 7.96 | 3.80 | 12.0% | 1.51 | 2.13 | 1.59 | 1.59 |
| HT V(A): HT - AGRICULTURE PUMPSETS | 5.24 | 3.80 | 12.0% | 1.51 | - | 1.05 | - |
| HT V(B): HT - AGRICULTURE OTHERS | 6.22 | 3.80 | 12.0% | 1.51 | 0.40 | 1.24 | 0.40 |
| HT VI: HT - GROUP HOUSING SOCIETIES (RESIDENTIAL) | 8.86 | 3.80 | 12.0% | 1.51 | 3.03 | 1.77 | 1.77 |
| HT VIII(B): HT - TEMPORARY SUPPLY OTHERS (TSO) | 17.75 | 3.80 | 12.0% | 1.51 | 11.93 | 3.55 | 3.55 |
| HT IX(A): HT - PUBLIC SERVICES-GOVERNMENT | 10.33 | 3.80 | 12.0% | 1.51 | 4.50 | 2.07 | 2.07 |
| HT IX(B): HT - PUBLIC SERVICES-OTHERS | 13.33 | 3.80 | 12.0% | 1.51 | 7.51 | 2.67 | 2.67 |
| **LT CATEGORY** | | | | | | | |
| **LT I : RESIDENTIAL** | | | | | | | |
| LT-BPL DOMESTIC | 2.08 | 3.80 | 14.90% | 2.03 | - | 0.42 | - |
| LT-DOMESTIC | | | | | | | |
| 0-100 | 5.48 | 3.80 | 14.90% | 2.03 | - | 1.10 | - |
| 101-300 | 9.26 | 3.80 | 14.90% | 2.03 | 2.77 | 1.85 | 1.85 |
| 301-500 | 11.75 | 3.80 | 14.90% | 2.03 | 5.26 | 2.35 | 2.35 |
| 501-1000 | 13.07 | 3.80 | 14.90% | 2.03 | 6.57 | 2.61 | 2.61 |
| ABOVE 1000 | 13.86 | 3.80 | 14.90% | 2.03 | 7.37 | 2.77 | 2.77 |
| **LT II : COMMERCIAL** | | | | | | | |
| LT COMM 0-20 KW | 12.39 | 3.80 | 14.90% | 2.03 | 5.90 | 2.48 | 2.48 |
| LT COMM 20-50 KW | 13.79 | 3.80 | 14.90% | 2.03 | 7.30 | 2.76 | 2.76 |
| LT COMM > 50 KW | 16.79 | 3.80 | 14.90% | 2.03 | 10.30 | 3.36 | 3.36 |
| **LT III : PWW** | | | | | | | |
| LT-PWW > 40 KW | 6.62 | 3.80 | 14.90% | 2.03 | 0.13 | 1.32 | 0.13 |
| **LT V (A) : INDUSTRIES (GENERAL)** | | | | | | | 0.00 |
| LT IND UPTO 27 HP | 6.80 | 3.80 | 14.90% | 2.03 | 0.31 | 1.36 | 0.31 |
| LT IND > 27 HP | 9.53 | 3.80 | 14.90% | 2.03 | 3.04 | 1.91 | 1.91 |
| **LT V (B) : POWERLOOM** | | | | | | | |
| POWERLOOM UPTO 27 HP | 6.15 | 3.80 | 14.90% | 2.03 | - | 1.23 | - |
| POWERLOOM > 27 HP | 7.77 | 3.80 | 14.90% | 2.03 | 1.28 | 1.55 | 1.28 |
| **LT VI : STREET LIGHT** | | | | | | | |
| ST.LGT GRAM, A,B&C | 6.24 | 3.80 | 14.90% | 2.03 | - | 1.25 | - |
| ST.LGT MUN. CO. | 7.77 | 3.80 | 14.90% | 2.03 | 1.28 | 1.55 | 1.28 |
| **LT VI : TEMPORORY CONNECTION** | | | | | | | |
| TEMP CONN (OTHER) | 15.43 | 3.80 | 14.90% | 2.03 | 8.94 | 3.09 | 3.09 |

| Consumer Category | T | C | L | D = WL + Tx | CSS Computed | 20% of Tariff - (b) | CSS - Min (a,b) |
|---|---|---|---|---|---|---|---|
| | Rs./Unit* | | % | Rs./Unit* | | | |
| TEMP CONN (RELI) | 5.57 | 3.80 | 14.90% | 2.03 | - | 1.11 | - |
| **LT VIII: HORDING AND ADVT.** | 18.05 | 3.80 | 14.90% | 2.03 | 11.56 | 3.61 | 3.61 |
| **LT IX : CREMATORIUM/BURIAL** | 5.04 | 3.80 | 14.90% | 2.03 | - | 1.01 | - |
| **LT X (A)LT-PUB.SER.GOVT** | | | | | | | |
| LT-PUB.SER.GOVT- 0-20 KW | 7.60 | 3.80 | 14.90% | 2.03 | 1.10 | 1.52 | 1.10 |
| LT-PUB.SER.GOVT- 20-50 KW | 8.49 | 3.80 | 14.90% | 2.03 | 2.00 | 1.70 | 1.70 |
| LT-PUB.SER.GOVT- > 50 KW | 9.22 | 3.80 | 14.90% | 2.03 | 2.73 | 1.84 | 1.84 |
| **LT X : PUB.SER.OTHER** | | | | | | | |
| LT-PUB.SER.OTHER 0-20 KW | 9.28 | 3.80 | 14.90% | 2.03 | 2.79 | 1.86 | 1.86 |
| LT-PUB.SER.OTHER- 20-50KW | 9.94 | 3.80 | 14.90% | 2.03 | 3.45 | 1.99 | 1.99 |
| LT-PUB.SER.OTHER->50KW | 10.25 | 3.80 | 14.90% | 2.03 | 3.76 | 2.05 | 2.05 |

9.37.15. With the rationalisation effected by the Distribution Open Access Regulations, 2016, adoption of the CSS formulae in accordance with the Tariff Policy and the preferential tariff approved for purchase from RE sources, no concession would be provided to the RE sector in terms of discounted CSS levy. Thus, from the date of applicability of this Order, in case of an OA consumer purchases power from a RE source, the full CSS as determined above shall be payable. The CSS so approved as above shall be applicable on the energy actually consumed by the OA consumer, i.e., on the metered consumption.

## 9.38. Additional Surcharge

### *MSEDCL's Submission*

9.38.1. Section 42(4) provides the levy of Additional Surcharge to a consumer who receives supply of electricity from a person other than the distribution licensee of his area of supply. Regulation 14.8 of the Commission's Distribution OA Regulations, 2016 outlines the principles for determination and levy of Additional Surcharge as below:

9.38.2. Petitioner has implemented Intra State ABT in the State of Maharashtra since 1 August, 2011, SLDC/DISCOM are granting approvals/consents to OA consumers for purchase of sale of power through OA as per OA Regulations. Further, Petitioner on one hand has tied up considerable quantum of power, after approval of the Commission, by considering the overall growth of the State, on the other hand, the OA users, who are now buying considerable quantum of power under OA, are not availing power supply from MSEDCL. As a result, the generation capacity tied up by MSEDCL becomes excess and remains idle.

9.38.3. In this situation, MSEDCL needs to back-down the generation and has to pay Fixed Charges (or Capacity Charges) to the Generators as per the Terms and Conditions of the PPAs irrespective of utilization of generation. The burden of fixed cost is affecting the viability and sustainability of operations for MSEDCL, which ultimately adversely affects the consumers who are buying power from MSEDCL. Hence, in order to mitigate this, it would be appropriate to determine Additional Surcharge for OA consumers, as per Section 42(4) of the EA, 2003.

9.38.4. The Commission in its Order dated 3 November, 2016 had observed that, there was a case for recovery of the part of fixed cost towards the stranded capacity arising from the power purchase obligation through levy of Additional Surcharge from OA consumers. Accordingly, the Commission has determined the additional surcharge in its MYT Order dated 3 November, 2016.

9.38.5. Petitioner further stated that, Section 2 (47) of the EA, 2003, defines “Open Access”, while Section 42(2) of the said Act inter-alia mandates the Distribution Licensee ton provide OA to the eligible consumers, subject to payment of “Cross Subsidy Surcharge” in addition to the charges for wheeling. Fourth proviso of the subsection 2 of Section 42 of the Act also provides for exemption of levy of Cross Subsidy Surcharge to person who has established a Captive Generating plant for carrying the electricity to the destination of his own use.

9.38.6. Thus, from the complete reading of the Section 42 of the EA, 2003, it is clear that the said Act does not specifically provide for any exemption of levy of Additional Surcharge to Captive Generating Plants. In addition to it, MSEDCL states that Captive Generation was encouraged by the Government during the period when the electricity requirements of the Industrial Consumers were to be met by Captive Generation due to shortage of power to meet the continuous power requirements of such consumers. The EA, 2003 provides various benefits to such plants. However, over the period, the situation has changed and sufficient power is available to cater the demand of industrial consumers and now most of the Distribution Utilities, including MSEDCL, are power surplus.

9.38.7. However, by changing the shareholding in accordance with the Electricity Rules, 2005 by selling 26% of equity, a generating plant originally setup as an Independent Power Producer (IPP) is being converted to a Group Captive Generating Plant. Thus, majority shareholders (74%) avail the financial benefits of group captive structure without consuming any power. The Commission has also observed such scenario in its Order in Case No. 117 of 2012, in the matter of Petition filed by M/s Sai Wardha Power Company.

9.38.8. Thus, the increasing trend of such retrofitting oneself as a Captive to evade CSS and Additional Surcharge is alarming and requires to be taken judicial note of. Such, evasion of CSS and Additional Surcharge affects the revenue of Distribution Utilities and such under recovery gets passed on to the consumers of distribution utilities resulting in increase in their tariff for no fault on their part. In view of above submissions in forgoing paragraphs, MSEDCL submitted that, the Commission to allow levy of Additional Surcharge to all OA consumers irrespective of source of power from IPPs or CPPs.

9.38.9. Petitioner also referred Regulation 6 of Himachal Pradesh Electricity Regulatory Commission (CSS, Additional Surcharge and Phasing of Cross Subsidy) Regulations, 2006 provides levy of Additional Surcharge payable by any consumer including any consumer who puts up a Captive Plant for his own use.

9.38.10. Petitioner has computed the Additional Surcharge as per DOA Regulations, 2016 based on the data for the FY 2016-17 and in line with the methodology adopted by the Commission in its MYT Order dated 3 November, 2016 as under:

**Table 9-40: Additional Surcharge for FY 2018-19 and FY 2019-20, as submitted by MSEDCL**

| Particulars | Reference | Unit | FY 2018-19 | FY 2019-20 |
|---|---|---|---|---|
| **Step-1: Establishing contribution of OA to backing-down/stranded capacity** | | | | |
| OA volume for FY 17-18 | (a) | MU | 5,009 | 5,009 |
| Backing Down quantum for FY 17-18 | (b) | MU | 14,917 | 14,917 |
| Ratio to OA to Backed down for FY 17-18 | (c )=(b)/(a) | % | 34% | 34% |
| **Step-2: Ascertaining Cost of Stranded Capacity** | | | | |
| Fixed Cost of Thermal Generating Sources for FY 18-19 | (d) | Rs. Crs | 18026.14 | 19130.85 |
| Total Available MU from Thermal Generating Stations for FY 18-19 | (e ) | MUs | 144206.61 | 148984.53 |

| Particulars | Reference | Unit | FY 2018-19 | FY 2019-20 |
|---|---|---|---|---|
| Wt. Avg. Per Unit FC of Thermal Generating Stations for FY 18-19 | (f)=(d)/(e ) x10 | Rs/kWh | 1.25 | 1.28 |
| Total Projected Back down/RSD Volume for FY 18-19 | (g) | MUs | 41902.22 | 46089.60 |
| Projected Open Access Volume for year for FY 18-19 | (h) | MUs | 5259.45 | 5522.42 |
| Fixed Cost pertaining to Back down/RSD capacity for FY 18-19 | (i)=(f)*(h)/10 | Rs. Crs | 657.44 | 709.12 |
| **Step-3: Determination of Additional Surcharge** | | | | |
| **Per Unit Additional Surcharge (to be applicable on OA Consumers )** | **j=(i)/(h)*10** | **Rs/kVAh** | **1.25** | **1.28** |

***Commission's Analysis and Rulings***

9.38.11. The Commission has carefully examined the submissions of MSEDCL, as well as the objections filed by stakeholders with regard to the determination of Additional Surcharge and MSEDCL's replies. The Commission has examined the Section 42(4) of the EA, 2003, Clause 8.5.4 of the Tariff Policy, 2016 and Regulation 14.8 of the Distribution Open Access Regulations, 2016 ('DOA Regulations, 2016'). In light of said provisions of the respective Regulations and Tariff Policy, the Commission in its MYT Order had already recognised that there is a case for recovery of the part of fixed cost towards the stranded capacity arising from the power purchase obligation through levy of Additional Surcharge from OA consumers.

9.38.12. As the Commission has envisaged a power surplus scenario for the FY 2018-19 and FY 2019-20, the levy of Additional Surcharge from OA consumers is found to be aptly applicable for FY 2018-19 and FY 2019-20.

9.38.13. Regarding the applicability of the Additional Surcharge, MSEDCL stated that the Additional Surcharge, being a compensatory amount payable towards the fixed cost of stranded power resulting from approved power purchase contracts, has to be determined commonly for all the OA Users.

9.38.14. The Commission has carefully examined the submissions of MSEDCL, as well as the objections filed by stake-holders and MSEDCL's replies with regard to the applicability of Additional Surcharge for Open Access Consumers sourcing power through Group Captive Power Plants (GCPP).

9.38.15. The Commission has examined the relevant provisions of EA, 2003, and Regulation 14.8 of the DOA Regulations, 2016 on which MSEDCL has relied. The relevant extracts read as follows

*(a) Section 42 (4) of EA, 2003, stipulates that:*

*"Where the State Commission permits a consumer or class of consumers to receive supply of electricity from a person other than the distribution licensee of his area of supply, such consumer shall be liable to pay an additional surcharge on the charges of wheeling, as may be specified by the State Commission, to meet the fixed cost of such distribution licensee arising out of his obligation to supply."*

*[Emphasis Added]*

9.38.16. The Second proviso of Section 9 (1) of the EA 2003 only states that the electricity generated from Captive Generating Plants (CGP) may be supplied to any consumers subject to Regulations made under Section 42 (2) of the EA 2003. The Relevant para. is reproduced as below:

*9 ".*

*(1) Notwithstanding anything contained in this Act, a person may construct, maintain or operate a captive generating plant and dedicated transmission lines:*

*Provided that the supply of electricity from the captive generating plant through the grid shall be regulated in the same manner as the generating station of a generating company.*

*[Provided further that no licence shall be required under this Act for supply of electricity generated from a captive generating plant to any licencee in accordance with the provisions of this Act and the rules and regulations made thereunder and to any consumer subject to the regulations made under subsection (2) of section 42.*

*(2) Every person, who has constructed a captive generating plant and maintains and operates such plant, shall have the right to open access for the*

*purposes of carrying electricity from his captive generating plant to the destination of his use:*

*[Emphasis Added]*

(b) 1st proviso to Regulation 14.8 (d) of DOA Regulations, 2016 reads as follows:

***"14.8 (d)… (ii) The cost has not been or cannot be recovered from the consumer, or from other consumers who have been given supply from the same assets or facilities, or from other Consumers, either through wheeling charges, standby charges or such other charges as may be approved by the Commission:***

***Provided that such Additional Surcharge shall be applicable to all the consumers who have availed Open Access to receive supply from a source other than the Distribution Licensee to which they are connected."***

(c) Proviso of Section 42 (2) of the Electricity Act, 2003 reads as under:

*"42(2) The State Commission shall introduce open access in such phases and subject to such conditions, (including the cross subsidies, and other operational constraints) as may be specified within one year of the appointed date by it and in specifying the extent of open access in successive phases and in determining the charges for wheeling, it shall have due regard to all relevant factors including such cross subsidies, and other operational constraints:*

*…..*

*Provided also that such surcharge shall not be leviable in case open access is provided to a person who has established a captive generating plant for carrying the electricity to the destination of his own use:"*

*[Emphasis Added]*

9.38.17. Moreover, CSS and Additional Surcharge are levied on account of completely different underlying principles. CSS is used/ utilized/ levied to meet the requirement of current level of cross subsidy of Distribution Licensee, while Additional Surcharge is to be levied to meet the fixed cost of such Distribution Licensee arising out of his obligation to supply and its planned power supply has been stranded due to shifting/switching over of Consumers from Distribution Licensee to Open Access mode.

9.38.18. The Commission in its MYT Order dated 3 November, 2017 in Case No. 48 of 2016 has explained the rationale for the determination of the Additional Surcharge for Open Access Consumers. The Relevant Para is reproduced as below:

*"8.40.*

*.....*

*On the other hand, MSEDCL has stated that the Additional Surcharge, being a compensatory amount payable towards the fixed cost of stranded power resulting from approved power purchase contracts, has to be determined commonly for all the OA Users, including captive consumers.*

*As per Section 42(4) of the EA, 2003, the levy of Additional Surcharge arises where the State Commission permits a consumer or class of consumers to receive supply of electricity from a person other than the Distribution Licensee of his area of supply. However, as per Section 9 of the EA, 2003, CPPs have been given the right to carry electricity from the Generating Plants to the destination of their own use. The question of 'permit' and 'supply' does not arise to the extent of 'self-consumption' by Captive Users of the CPPs. Thus, the Commission is of the view that Additional Surcharge is not applicable to Captive Users of CPPs to the extent of their self-consumption from such Plants.*

*As per the second proviso to Section 9(1), the electricity generated from a CPP may be supplied to any consumer subject to regulations made under Section 42(2). Additional Surcharge shall be applicable in case of such supply from a CPP to OA Consumers.*

*Further, as per Regulation 14.8 of the DOA Regulations, 2016, Additional Surcharge shall be applicable to all consumers who have availed OA to receive supply from a source other than the Distribution Licensee to which they are connected.*

9.38.19. Though, the Commission has specifically provided exemption of Additional Surcharge in the MYT Order for Captive Users of CPPs to the extent of their self-consumption from such Plants, the Commission noted that frequently changing captive users of GCPP was leading to stranded contracted capacity of Distribution Licensee. Such captive users are very different from static captive users of original Captive Power Plants as the latter have ceased to be consumers of Distribution Licencees having created their own permanent power requirement through captive mode. There is no power planning needed for such static captive users as against frequently switching users of group captive power plants for whom the power supply is planned and therefore becomes a stranded capacity. Such Group Captive users become liable to same Additional Surcharge due to stranded capacity as applicable to other open access consumers.

9.38.20. It is brought to the notice of the Commission that most of the GCPP users avail Open Access under short term basis. The GCPP matrix also keeps on changing frequently in order to meets 26 % equity criteria under Electricity Rules, 2005. Equity is apparently purchased as preferential share at a nominal cost. Hence, change in the consumer mix whereby Consumers switching out of GCPP matrix leads to stranded capacity on Short Term Open Access (STOA) as the quantum of power keeps changing as per the fluctuating number of GCPP users.

9.38.21. If there is stranded capacity created on account of such Consumers switching to Open Access Group Captive arrangement , the Additional Surcharge as determined by the State Commission shall be payable by such Captive Open Access users who are already factored in power procurement plan of Distribution Licensees.

9.38.22. With the increase in this GCPP based OA transactions, the obligation of the Distribution Licensee in terms of power purchase commitments has been and shall continue to be stranded, and there will be an unavoidable obligation and incidence to bear the fixed costs consequent to such commitments. Such fixed cost of power purchase has to be expected to be incurred with reasonable certainty, and also that such fixed cost of power purchase cannot be recovered from OA Consumers through Wheeling Charges or Stand-by Charges alone.

9.38.23. The Commission is of the considered view that, unless such fixed costs due to stranded capacity are recovered from OA Consumers, this burden would be unjustly loaded onto other Consumers of Distribution Licensee. The Commission believes it would be unfair and unwarranted to pass such burden of fixed cost recovery of such stranded cost to other Consumers through consequent tariff hike.

9.38.24. The Commission is of the view that, under the circumstances and in pursuance of Regulation 14.8 of the DOA Regulations, 2016, there is a case for recovery of the part of fixed cost towards the stranded capacity arising from the power purchase obligation through levy of Additional Surcharge from OA Consumers including the Group Captive Consumers who have availed such arrangement henceforth.

9.38.25. Accordingly, the Commission has determined the two categories of captive users who procure power from CGP's viz., (a) Original Captive Users (who were never consumers of Distribution Licensee) and (b) Converted Captive Users (who subsequently switchover to GCPP mode) . The Original Captive Users are the Users who have been procuring power originally under the captive mode and whose demand has not been included in the power procurement plan of Distribution Licensee whereas Converted Captive Users are the Users who prior to issue of this Order were Consumers of Distribution Licensee and who have opted to procure power under Group Captive arrangement, creating stranded capacity for Distribution Licensee.

9.38.26. In view of the above the Commission holds that Additional Surcharge shall be applicable to Captive Users of Group Captive Power Plants; in addition to Open Access consumers.

9.38.27. The Commission has employed the same methodology as suggested by the MSEDCL for determination of the Additional Surcharge for FY 2018-19 and FY 2019-20, the computation of which is provided below.

**Table 9-41: Additional Surcharge approved by the Commission**

| Particulars | Reference | Unit | MTR Petition | Approved in this Order |
|---|---|---|---|---|
| **Step-1: Establishing contribution of OA to backing-down/stranded capacity** | | | | |
| OA volume for FY 17-18 | (a) | MU | 5,009 | 5,009 |
| Backing Down quantum for FY 17-18 | (b) | MU | 14,917 | 14,917 |
| Ratio to OA to Backed down for FY 17-18 | (c)=(b)/(a) | % | 34% | 34% |
| | | | | |
| **Step-2: Ascertaining Cost of Stranded Capacity** | | | | |

| Particulars | Reference | Unit | MTR Petition | Approved in this Order |
|---|---|---|---|---|
| Fixed Cost of Thermal Generating Sources for FY 18-19 | (d) | Rs. Crs | 18,026 | 17,187 |
| Total Available MU from Thermal Generating Stations for FY 18-19 | (e ) | MUs | 1,44,207 | 1,36,912 |
| Wt. Avg. Per Unit FC of Thermal Generating Stations for FY 18-19 | (f)=(d)/(e ) x10 | Rs/kWh | 1.25 | 1.25 |
| Total Projected Backdown/RSD Volume for FY 18-19 | (g) | MUs | 41,902 | 38,110 |
| Projected Open Access Volume for year for FY 18-19 | (h) | MUs | 5,259 | 5,259 |
| Fixed Cost pertaining to Backdown/RSD capacity for FY 18-19 | (i)=(f)*(h)/10 | Rs. Crs | 657 | 660 |
| | | | | |
| **Step-3: Determination of Additional Surcharge** | | | | |
| **Per Unit Additional Surcharge (to be applicable on OA Consumers )** | **j=(i)/(h)*10** | **Rs/kWh** | **1.25** | **1.25** |

9.38.28. The Commission observes that for application of the Additional Surcharge it has to be conclusively demonstrated that the contracted capacity has been stranded and that open access has partly resulted in causing such stranded capacity. Based on actual data for FY 2017-18 and the workings provided in the above table, the case of stranded capacity on account of open access and hence the levy of Additional Surcharge is established. Besides, based on the approved power purchase projections and projection of available generation capacity as outlined under Chapter-6, the same is expected to continue for FY 2018-19 and FY 2019-20. Hence, for the purpose of specifying the additional surcharge for the future years of 3rd Control period, the Commission approves 1.25 Rs/kWh as the Additional Surcharge for FY 2018-19 and FY 2019-20.

# 10. SCHEDULE OF CHARGES

## 10.1. Background

10.1.1. MSEDCL has submitted that it recovers various miscellaneous and general charges from its consumers for various services provided as per the Schedule of charges approved by the Commission vide its Order dated 16 August 2012 (Case No. 19 of 2012). MSEDCL stated that these charges are for recovery of investments made, which should otherwise be made by the consumer, for availing supply of electricity and maintained by MSEDCL for consumers' exclusive use, and various other services provided to the consumers. The income from these charges form a part of the non-tariff income of MSEDCL.

10.1.2. MSEDCL quoted the provisions of Section 45 of EA 2003 and MERC (Electricity Supply Code and Other Conditions of Supply) Regulations, 2005 authorising MSEDCL to recover such charges from consumers. MSEDCL further added that since the year 2012, various parameters have changed. The cost of material as well as other administrative and labour expenses has increased since 2012. This has necessitated the need for revision of Schedule of Charges.

10.1.3. In its Petition, MSEDCL has prayed to revise the schedule of charges and proposed revised charges. In the following paragraphs, the Commission has analysed the proposal and determined the Schedule of Charges for MSEDCL.

## 10.2. Service connection charges proposed by MSEDCL

10.2.1. MSEDCL submitted that it has proposed Service Connection Charges (SCC) are projected based on maximum of estimated or actual expenditure incurred for providing supply to the consumer.

10.2.2. The Commission in its Order in Case No. 19 of 2012 dated 16 August, 2012 has estimated the service connection charges on the basis of 20 meters as the average length. MSEDCL in present proposal has followed the same estimation and worked.

10.2.3. MSEDCL submitted that it has used the material schedule rates of its Central Purchase Agency (CPA). Actual labour cost has been calculated from basic pay and working hours of the staff and labour. MSEDCL considered 5% and 1.5% of the total material cost as transportation cost and cost for the tools and plants respectively. MSEDCL proposed to keep all other charges, such as supervision charges, variable charges, etc., at the present level.

### 10.3. Service connection charges for new overhead connections

10.3.1. The computation of service connection charges for new overhead connections as submitted by MSEDCL is detailed below:

**a)** LT supply

I. Single phase:

***Table 10-1: Service connection charges for overhead connection (LT 1 Ph) for load up to 0.5 kW as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs | Cost in Rs. |
|---|---|---|---|---|
| W.P. Wire 2.5mm$^2$ | Mtr | 20 | 5.70 | 114.06 |
| Meter Board | No | 1 | 42.40 | 42.40 |
| Kit Kat /MCCB 20 A with Enclosure | No | 1 | 130.72 | 130.72 |
| G.I. Wire 10SWG | Kg | 2 | 58.72 | 117.45 |
| GI Pipe 20 mm | Mtr | 3 | 55.12 | 165.36 |
| Reel Insulator 20 mm | No | 20 | 2.12 | 42.40 |
| GI Bend 20 mm | No | 3 | 13.99 | 41.98 |
| GI Flexible pipe 20 mm | No | 2 | 10.60 | 21.20 |
| GI coupling 20 mm | No | 3 | 5.83 | 17.49 |
| Sundries NB, Screws, Washers, etc. | No | 1 | 159.00 | 159.00 |
| Total | | | | 852.05 |
| Approx. Labour Charges | | | | 85.20 |
| Transportation Charges (5%) | | | | 42.60 |
| Tools & plants (1.5%) | | | | 12.78 |
| Grand Total | | | | 992.64 |
| | **Proposed charges** | | | **1000** |

*(MCCB /Kit Kat are used as per availability. MCCB are preferred considering safety point of view)*

***Table 10-2: Service connection charges for overhead connection (LT 1 Ph) for load above 0.5 kW and up to 10 kW as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs. | Cost in Rs. |
|---|---|---|---|---|
| W.P. Wire10 mm2 | Mtr | 20 | 17.17 | 343.44 |

| Material | Unit | Quantity | Rate in Rs. | Cost in Rs. |
|---|---|---|---|---|
| Meter Board | No | 1 | 42.40 | 42.40 |
| Kit kat /MCCB Fuse 32A with Enclosure | No | 1 | 130.72 | 130.72 |
| G.I. Wire 10 SWG | Kg | 2 | 58.72 | 117.45 |
| GI Pipe 30 mm | Mtr | 3 | 100.70 | 302.10 |
| Reel Insulator 30 mm | No | 20 | 2.12 | 42.40 |
| GI Bend 30 mm | No | 3 | 47.70 | 143.10 |
| PVC Flexible pipe 30 mm | No | 2 | 26.50 | 53.00 |
| GI coupling 30 mm | No | 3 | 31.80 | 95.40 |
| Sundries NB, Screws, Washers, etc. | No | 1 | 212.00 | 212.00 |
| Total | | | | 1482.01 |
| Approx. Labour Charges | | | | 148.20 |
| Transportation Charges (5%) | | | | 74.10 |
| Tools & plants (1.5%) | | | | 22.23 |
| Grand Total | | | | 1726.54 |
| | **Proposed Charges** | | | **1800.00** |

*(MCCB /Kit Kat are used as per availability. MCCB are preferred considering safety point of view)*

II. Three phase:

***Table 10-3: Service connection charges for overhead connection (LT 3 Ph) for motive power (< 21 HP) or other (< 16 kW) as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs | Cost in Rs |
|---|---|---|---|---|
| W.P. Wire 16 $mm^2$ | Mtr | 40 | 67.49 | 2699.61 |
| Meter Board | No | 1 | 74.20 | 74.20 |
| Kit kat /MCCB 63A | No | 3 | 328.32 | 984.97 |
| G.I. Wire 8 SWG | Kg | 2 | 57.07 | 114.14 |
| GI Pipe 25 mm | Mtr | 3 | 68.90 | 206.70 |
| Reel Insulator 25 mm | No | 20 | 2.12 | 42.40 |
| GI Bend 25 mm | No | 3 | 13.99 | 41.98 |
| GI Flexible pipe 25 mm | No | 2 | 62.54 | 125.08 |
| GI coupling 25mm | No | 3 | 5.83 | 17.49 |
| Sundries NB, Screws, Washers etc. | No | 1 | 212.00 | 212.00 |
| Total | | | | 4518.57 |
| Approx. Labour Charges | | | | 451.86 |

| Material | Unit | Quantity | Rate in Rs | Cost in Rs |
|---|---|---|---|---|
| Transportation Charges (5%) | | | | 225.93 |
| Tools & Plants (1.5%) | | | | 67.78 |
| Grand Total | | | | 5264.13 |
| | **Proposed charges** | | | **5250.00** |

*(MCCB /Kit Kat are used as per availability. MCCB are preferred considering safety point of view)*

***Table 10-4: Service connection charges for overhead connection (LT 3 Ph) for motive power (>21 HP but <107 HP) or other (>16 kW but <80 kW) as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs | Cost in Rs. |
|---|---|---|---|---|
| L.T. PVC Armoured cable 4 core 70 sq.mm | Mtr | 20 | 257.56 | 5151.18 |
| Meter Board | No | 1 | 74.20 | 74.20 |
| Kit kat Fuse 200A | No | 3 | 577.53 | 1732.59 |
| G.I. Wire 8SWG | kg | 3 | 57.07 | 171.21 |
| Sundries NB, Screws, Washers, Saddle, etc. | No | 1 | 530.00 | 530.00 |
| Total | | | | 7659.18 |
| Approx. Labour Charges | | | | 765.92 |
| Transportation Charges (5%) | | | | 382.96 |
| Tools & Plants (1.5%) | | | | 114.89 |
| Grand Total | | | | 8922.94 |
| | **Proposed charges** | | | **9000.00** |

*(MCCB /Kit Kat are used as per availability. MCCB are preferred considering safety point of view)*

***Table 10-5: Service connection charges for overhead (LT 3 Ph) for motive power (> 107 HP but < 201 HP) or other (> 80 kW but <150 kW) as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs | Cost in Rs |
|---|---|---|---|---|
| L.T. PVC Armoured cable 4 core 150sq.mm | Mtr | 20 | 375.98 | 7519.64 |
| Meter Board | No | 1 | 74.20 | 74.20 |
| Kit kat / MCCB 300A, 650V | No | 3 | 577.53 | 1732.59 |
| Sundries NB, Screws, Washers, saddle, etc. | No | 1 | 2120.00 | 2120.00 |
| Total | | | | 11446.43 |
| Approx. Labour Charges | | | | 1144.64 |
| Transportation Charges (5%) | | | | 572.32 |

| Material | Unit | Quantity | Rate in Rs | Cost in Rs |
|---|---|---|---|---|
| Tools & Plants (1.5%) | | | | 171.70 |
| Grand Total | | | | 13335.09 |
| | **Proposed Charges** | | | **13000.00** |

*(MCCB /Kit Kat are used as per availability. MCCB are preferred considering safety point of view)*

**b) HT supply**

***Table 10-6: Service connection charges for overhead connection (HT) up to 500 kVA as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs. | Cost in Rs |
|---|---|---|---|---|
| XLPE Cable 11 kV 3C 95 sq. mm. | Rmt | 20 | 304.95 | 6099.03 |
| Heat shrinkable kit | No | 2 | 4452.00 | 8904.00 |
| Cable Trays 2.5* 6" | No | 12 | 212.00 | 2544.00 |
| Sundries | No | 1 | 1060.00 | 1060.00 |
| Total | | | | 18607.03 |
| Approx. Labour Charges | | | | 1860.70 |
| Transportation Charges (5%) | | | | 930.35 |
| Tools & Plants (1.5%) | | | | 279.11 |
| Grand Total | | | | 21677.19 |
| | **Proposed Charges** | | | **21500.00** |

*(For load demand in excess of 500 kVA additional charge of Rs.30 per kVA will be applicable)*

### 10.4. Service connection charges for new underground connections

10.4.1. The service connection charges for new underground connections as proposed by MSEDCL are reproduced below.

**a)** LT supply

I. Single phase:

***Table 10-7: Service connection charges for underground connection (LT 1 Ph) for load up to 5 kW as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs. | Cost in Rs |
|---|---|---|---|---|
| L.T. 2 Core Cable 2.5 sq mm Armoured | Rmt | 20 | 73.41 | 2077.50 |
| Meter Board | No | 1 | 42.40 | 42.40 |

| Material | Unit | Quantity | Rate in Rs. | Cost in Rs |
|---|---|---|---|---|
| Kit Kat / MCCB 32A with enclosure | No | 1 | 130.72 | 130.72 |
| Misc. for U/G Cable | LS | 1 | 1060.00 | 1060.00 |
| Total | | | | 3310.62 |
| Approx. Labour Charges | | | | 331.06 |
| Transportation Charges (5%) | | | | 165.53 |
| Tools & Plants (1.5%) | | | | 49.66 |
| Grand Total | | | | 3856.87 |
| | **Proposed Charges** | | | **3850.00** |

*(MCCB /Kit Kat are used as per availability. MCCB are preferred considering safety point of view)*

***Table 10-8: Service Connection Charges for Underground Connection (LT 1Ph) for loads avove 5 kW up to 10 kW as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs | Cost (Rs.) |
|---|---|---|---|---|
| L.T. 2 Core Cable 10sqmm Armoured | Rmt | 20 | 45.42 | 908.42 |
| Meter Board | No | 1 | 74.20 | 70.0 |
| Kit kat / MCCB 63A, 650V | No | 3 | 328.32 | 929.22 |
| Misc. for U/G Cable | LS | 1 | 4240.00 | 4240.00 |
| Total | | | | 6147.64 |
| Approx. Labour Charges | | | | 614.76 |
| Transportation Charges (5%) | | | | 307.38 |
| Tools & Plants (1.5%) | | | | 92.21 |
| Grand Total | | | | 7162.00 |
| | **Proposed Charges** | | | **7150.00** |

*(MCCB /Kit Kat are used as per availability. MCCB are preferred considering safety point of view)*

II. Three phase:

***Table 10-9: Service connection charges for underground connection (LT 3 Ph) motive power (< 27 HP) or other (<20 kW) as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs | Cost in Rs |
|---|---|---|---|---|
| L.T. XLPE Armoured cable 4core 16sq.mm. | Rmt | 20 | 67.48 | 1349.59 |
| Meter Board | No | 1 | 74.20 | 74.20 |
| Kit kat /MCCB 63A, 650V | No | 3 | 328.32 | 984.97 |

| Material | Unit | Quantity | Rate in Rs | Cost in Rs |
|---|---|---|---|---|
| R.C.C. Pipe 150 mm 2 M | No | 10 | 507.74 | 5077.40 |
| Misc. for U/G Cable | LS | 1 | 4240.00 | 4240.00 |
| Total | | | | 11726.17 |
| Approx. Labour Charges | | | | 1172.62 |
| Transportation Charges (5%) | | | | 586.31 |
| Tools & plants (1.5%) | | | | 175.89 |
| Grand Total | | | | 13660.98 |
| | **Proposed Charges** | | | **13500.00** |

*(MCCB /Kit Kat are used as per availability. MCCB are preferred considering safety point of view)*

***Table 10-10: Service connection charges for underground (LT 3 Ph) motive power (>27 HP but <67 HP) or other (>20 kW but <50 kW) as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs | Cost in Rs |
|---|---|---|---|---|
| L.T. XLPE Armoured cable 4 core 70 sq.mm. | Rmt | 20 | 383.59 | 7671.86 |
| Meter Board | No | 1 | 74.20 | 74.20 |
| Kit kat /MCCB 200A, 650V | No | 3 | 328.32 | 984.97 |
| R.C.C. Pipe 150 mm 2 M | No | 10 | 507.74 | 5077.40 |
| Misc. for U/G Cable | LS | 1 | 4240.00 | 4240.00 |
| Total | | | | 18048.43 |
| Approx. Labour Charges | | | | 1804.84 |
| Transportation Charges (5%) | | | | 902.42 |
| Tools & plants (1.5%) | | | | 270.73 |
| Grand Total | | | | 21026.42 |
| | **Proposed Charges** | | | **21000.00** |

*(MCCB /Kit Kat are used as per availability. MCCB are preferred considering safety point of view)*

***Table 10-11: Service connection charges for underground (LT 3 Ph) motive power (> 67 HP but <134 HP) or other (> 50 kW but <100 kW) as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs | Cost in Rs |
|---|---|---|---|---|
| L.T. XLPE Armoured cable 4 core 185 sq.mm. | Rmt | 20 | 835.71 | 16714.29 |
| Meter Board | No | 1 | 74.20 | 74.20 |
| MCCB | No | 1 | 5830.00 | 5830.00 |
| R.C.C. Pipe 150 mm 2 M | No | 10 | 667.80 | 6678.00 |
| Misc. for U/G Cable | LS | 1 | 8480.00 | 8480.00 |

| Material | Unit | Quantity | Rate in Rs | Cost in Rs |
|---|---|---|---|---|
| Total | | | | 37776.49 |
| Approx. Labour Charges | | | | 3777.65 |
| Transportation Charges (5%) | | | | 1888.82 |
| Tools & plants (1.5%) | | | | 566.65 |
| Grand Total | | | | 44009.61 |
| | **Proposed Charges** | | | **44000.00** |

***Table 10-12: Service connection charges for underground (LT 3 Ph) motive power (> 134 HP but <201 HP) or other (> 100 kW but < 150 kW) as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs | Cost in Rs |
|---|---|---|---|---|
| L.T. XLPE Armoured cable 4 core 300 sq.mm. | Rmt | 20 | 1308.80 | 26175.97 |
| Meter Board | No | 1 | 72.80 | 72.80 |
| MCCB | No | 1 | 16463.20 | 16463.20 |
| R.C.C. Pipe 150 mm 2 M | No | 10 | 655.20 | 6552.00 |
| Misc. for U/G Cable | LS | 1 | 8320.00 | 8320.00 |
| Total | | | | 57583.97 |
| Approx. Labour Charges | | | | 5758.40 |
| Transportation Charges (5%) | | | | 2879.20 |
| Tools & plants (1.5%) | | | | 863.76 |
| Grand Total | | | | 67085.32 |
| | **Proposed Charges** | | | **67050.00** |

**b) HT supply**

10.4.2. The Commission noticed that MSEDCL has provided the item-wise cost break up for its proposed service connection charges for new underground HT connections. MSEDCL submitted details as below.

***Table 10-13: Service connection charges for underground HT supply up to 500 kVA as proposed by MSEDCL***

| Material | Unit | Quantity | Rate | Cost (Rs.) |
|---|---|---|---|---|
| RSJ 152x152, 13 m long | No | 2 | 21597.20 | 43194.41 |
| M.S. Flats (50 X 10mm) | Kg | 15 | 36.18 | 542.67 |
| MS Channel 100x50x6 mm | Kg | 175 | 40.20 | 7034.16 |
| M.S. Channel 75x40x6 mm | Kg | 85 | 40.20 | 3416.59 |
| MS angle 50x50x6 mm | Kg | 65 | 40.20 | 2612.69 |
| Pin Insulator 11 kV | No | 3 | 43.16 | 129.49 |

| Material | Unit | Quantity | Rate | Cost (Rs.) |
|---|---|---|---|---|
| H.T. Stay Set | No | 2 | 546.81 | 1093.62 |
| Stay Wire 7/8 | Kg | 25 | 52.16 | 1304.07 |
| Earthing Sets H.T | No | 3 | 302.32 | 906.97 |
| G.I. Wire 8 SWG/ 6 SWG | Kg | 9 | 57.07 | 513.63 |
| G.I. Barbed Wire `A' type. | Kg | 7 | 57.88 | 405.13 |
| Danger Board in yard. | No | 2 | 46.64 | 93.28 |
| Red Oxide Paint for 2 coats | Ltr | 6 | 54.06 | 324.36 |
| Aluminium Paint for 1 coat | Ltr | 4 | 93.28 | 373.12 |
| Black Bituminus Paint | Ltr | 2 | 43.46 | 86.92 |
| Concreting ratio 1:4:8 | Cmt | 2 | 3323.10 | 6646.20 |
| Sundries (Crimping of cable jumpers, minor matching washers, Road Cutting Charges & misc. items) | L.S. | 1 | 44520.00 | 44520.00 |
| XLPE Cable 11 kV, 3 C / 95 mm sq. | Rmt | 60 | 514.09 | 30845.36 |
| R.C.C. Pipe 150 mm$^2$ M | No | 15 | 507.74 | 7616.10 |
| RCC Tiles (0.6 x 0.5) Mtrs. | No | 30 | 91.16 | 2734.80 |
| 11 kV Outdoor termination joint kit for 3 C X 95 mm$^2$ | No | 2 | 4452.00 | 8904.00 |
| Sand | Cmt | 15 | 202.88 | 3043.23 |
| Copper Strip (25 X 6 mm) for earthing of cubical, meter & cable | Kg | 15 | 477.00 | 7155.00 |
| HT Earthing set (For cubical ) | Set | 9 | 546.81 | 4921.30 |
| Bentonite clay | Kg | 500 | 4.24 | 2120.00 |
| 11 kV Lightning Arrestor | Set | 1 | 9613.56 | 9613.56 |
| Cost of material | | | | 190150.70 |
| Approx. Labour Charges (10%) | | | | 19015.07 |
| Transportation Charges (5%) | | | | 9507.53 |
| Tools & Plants (1.50%) | | | | 2852.26 |
| Grand Total | | | | 221525.56 |
| | **Proposed Charges** | | | **2,21,000.00** |

***Table 10-14: Service connection charges for underground HT supply above 500 kVA as proposed by MSEDCL***

| Material | Unit | Quantity | Rate in Rs | Cost in Rs |
|---|---|---|---|---|
| RSJ 152x152, 13 m long | No | 2 | 21597.20 | 43194.41 |
| M.S. Flats(50 X 10mm) | kg | 15 | 36.18 | 542.67 |
| MS Channel 100x50x6 mm | kg | 175 | 40.20 | 7034.16 |

| Material | Unit | Quantity | Rate in Rs | Cost in Rs |
|---|---|---|---|---|
| M.S. Channel 75x40x6 mm | kg | 85 | 40.20 | 3416.59 |
| MS angle 50x50x6 mm | kg | 65 | 40.20 | 2612.69 |
| Pin Insulator 11 kV | No | 3 | 43.16 | 129.49 |
| H.T. Stay Set | No | 2 | 546.81 | 1093.62 |
| Stay Wire 7/8 | kg | 25 | 52.16 | 1304.07 |
| Earthing Sets H.T | No | 3 | 302.32 | 906.97 |
| G.I. Wire 8 SWG/ 6 SWG | kg | 9 | 57.07 | 513.63 |
| G.I. Barbed Wire `A' type. | kg | 7 | 57.88 | 405.13 |
| Danger Board in yard. | No | 2 | 46.64 | 93.23 |
| Red Oxide Paint for 2 coats | Ltr | 6 | 54.06 | 324.36 |
| Aluminium Paint for 1 coat | Ltr | 4 | 93.28 | 373.12 |
| Black Bituminus Paint | Ltr | 2 | 43.46 | 86.92 |
| Concreting ratio 1:4:8 | Cmt | 2 | 3323.10 | 6646.20 |
| Sundries (Crimping of cable jumpers, minor matcing washers, Road Cutting Charges & misc. items) | L.S. | 1 | 44520.00 | 44520.00 |
| XLPE Cable 11 kV, 3 C / 185 mm sq. | Rmt | 60 | 812.35 | 48741.13 |
| R.C.C. Pipe 150 $mm^2$ M | No | 15 | 507.74 | 7616.10 |
| RCC Tiles (0.6 x 0.5) Mtrs. | No | 30 | 91.16 | 2734.80 |
| 11 kV Outdoor termination joint kit for 3 C X 185 $mm^2$ | No | 2 | 4452.00 | 8904.00 |
| Sand | Cmt | 15 | 202.88 | 3043.26 |
| Copper Strip (25 X 6 mm) for earthing of cubical, meter & cable. | kg | 15 | 477.00 | 7155.00 |
| HT Earthing set (For cubical ) | Set | 9 | 546.81 | 4921.30 |
| Bentonite clay | kg | 500 | 4.24 | 2120.00 |
| Cost of material | | | | 198432.90 |
| Approx. Labour Charges (10%) | | | | 19843.29 |
| Transportation Charges (5%) | | | | 9921.65 |
| Tools & Plants (1.5%) | | | | 2976.49 |
| Grand Total | | | | 231174.33 |
| | **Proposed Charges** | | | **2,30,000** |

10.4.3. Based on above computation, MSEDCL has proposed revision in service connection charges which is summarised below:

***Table 10-15: Summary of Approved Vs Proposed Service connection charges (Rs.)***

| Sr. No. | Category | As per Case 19 of 2012 | | Proposed by MSEDCL | |
|---|---|---|---|---|---|
| | | Existing SOC (Rs.) | Variable Charges (Rs.) | Proposed SOC (Rs.) | Variable Charges (Rs.) |
| | **Service connection charges for new overhead connections** | | | | |
| **1** | **LT Supply** | | | | |
| A | **Single Phase** | | | | |
| i | For load up to 0.5 kW | 950 | NIL | 1,000 | NIL |
| ii | For load above 0.5 kW and up to 10 kW | 1,500 | NIL | 1,800 | NIL |
| B | **Three Phase** | | | | |
| i | Motive power up to 21 HP or other loads up to 16 kW. | 3,500 | NIL | 5,250 | NIL |
| ii | Motive power above 21 HP but up to 107 HP or other loads above 16 kW but up to 80 kW. | 8,000 | NIL | 9,000 | NIL |
| iii | Motive power above 107 HP but up to 200 HP or other loads above 80 kW but up to 150 kW. | 13,000 | NIL | 13,000 | NIL |
| **2** | **HT Supply** | | | | |
| i | H.T. Supply up to 500 kVA. | 20,500 | 30 Per kVA for excess load above 500 kVA. | 21,500 | Rs. 30 Per kVA for excess load Above 500 kVA. |
| | **Service connection charges for new underground connections** | | | | |
| **1** | **L.T. Supply** | | | | |
| **A** | **Single Phase** | | | | |
| i | For load up to 5 kW | 3,000 | | 3,850 | |
| ii | For loads above 5 kW & up to 10kW | 7,000 | | 7,150 | |
| **B** | **Three Phase** | | | | |
| i | Motive power up to 27 HP or other loads up to 20 kW | 13,000 | | 13,500 | |

| Sr. No. | Category | As per Case 19 of 2012 | | Proposed by MSEDCL | |
|---|---|---|---|---|---|
| | | Existing SOC (Rs.) | Variable Charges (Rs.) | Proposed SOC (Rs.) | Variable Charges (Rs.) |
| ii | Motive power above 27 HP but up to 67 HP or for other loads above 20 kW but up to 50 kW | 20,000 | | 21,000 | |
| iii | Motive power above 67 HP but up to 134 HP or for other loads above 50 kW but up to 100 kW | 40,000 | | 44,000 | |
| iv | Motive power above 134 HP but up to 201 HP or for other loads above 100 kW but up to 150 kW | 61,000 | | 67,050 | |
| **2** | **H.T. Supply** | | | | |
| i | H.T supply up to 500 kVA | 2,00,000 | | 2,21,000 | |
| ii | H.T supply above 500 kVA | 2,20,000 | | 2,30,000 | |

## 10.5. Commission's Analysis and Rulings

10.5.1. The Commission notes that MSEDCL considered average length of service wires as 20 metres which is the same as considered by the Commission in its earlier Order on Schedule of Charges dated 16 August, 2012.

10.5.2. The Commission asked MSEDCL to submit the LOI/CPA data in support of the rates of materials as proposed by MSEDCL. The Commission verified the proposed rates with the rates of LOI submitted by MSEDCL. However, it is observed that MSEDCL has not submitted per unit rates for all the material items.

10.5.3. In the absence of CPA cost data for each of item of Service Connection Charges computation, the Commission could not verify reasonability of cost of each of the item included in calculation of Service Connection Charges.

10.5.4. Regarding labour charges used in computation of Service Connection Charges, MSEDCL submitted the working details for its proposed labour charges. However, the numbers of people and working hours considered by MSEDCL appeared to be on higher side for release of new connections with higher loads.

10.5.5. The Commission notes that MSEDCL in its submission has stated that Service Connection Charges are proposed based on charges approved by the Commission in Order dated 16 August 2012 and Wholesale Price Index (WPI) as on November 2017.

10.5.6. In the absence of Cost Data for verification of reasonability of material rates used in computation of Service Connection Charges, the Commission has relied upon the Wholesale Price Index (WPI) published by the Government of India. The Commission has used 6-year average of WPI starting from FY 2011-12. Said rate works out to be 4.25% p.a. on compounded basis. Other costs like transportation cost and cost of tools and plants are considered at 5% and 1.5% of total material costs in line with the approach adopted in earlier Schedule of Charges Order dated 16 August 2018. The above escalation rates have been applied on a compounding basis so as to factor in the increase over the past years.

10.5.7. With the above considerations, the Commission approves Service Connection Charges for new overhead and underground connections as summarised in the following table:

***Table 10-16: Service connection charges for new overhead connections as approved by the Commission***

| Sr. No. | Category | As per Case 19 of 2012 | | Proposed by MSEDCL | | Approved by the Commission | |
|---|---|---|---|---|---|---|---|
| | | Existing SOC (Rs.) | Variable Charges (Rs.) | Proposed SOC (Rs.) | Variable Charges (Rs.) | Approved SOC (Rs.) | Variable Charges (Rs.) |
| **1** | **LT Supply** | | | | | | |
| A | **Single Phase** | | | | | | |
| i | For load up to 0.5 kW | 950 | NIL | 1,000 | NIL | 1000 | NIL |
| ii | For load above 0.5 kW and up to 10 kW | 1,500 | NIL | 1,800 | NIL | 1500 | NIL |

| Sr. No. | Category | As per Case 19 of 2012 | | Proposed by MSEDCL | | Approved by the Commission | |
|---|---|---|---|---|---|---|---|
| | | Existing SOC (Rs.) | Variable Charges (Rs.) | Proposed SOC (Rs.) | Variable Charges (Rs.) | Approved SOC (Rs.) | Variable Charges (Rs.) |
| B | **Three Phase** | | | | | | |
| i | Motive power up to 21 HP or other loads up to 16 kW. | 3,500 | NIL | 5,250 | NIL | 3500 | NIL |
| ii | Motive power above 21 HP but up to 107 HP or other loads above 16 kW but up to 80 kW. | 8,000 | NIL | 9,000 | NIL | 8500 | NIL |
| iii | Motive power above 107 HP but up to 201 HP or other loads above 80 kW but up to 150 kW. | 13,000 | NIL | 13,000 | NIL | 13,000 | NIL |
| **2** | **HT Supply** | | | | | | |
| i | H.T. Supply up to 500 kVA. | 20,500 | Rs.30 Per kVA for excess load above 500 kVA. | 21,500 | Rs.30 Per kVA for excess load above 500 kVA. | 21,500 | Rs.30 Per kVA for excess load above 500 kVA |

*Notes: 1) In case MSEDCL permits an applicant to carry out the works through a Licensed Electrical Contractor (LEC), a rate of 1.30 % of the normative charges will be applicable towards supervision charges.*

*2) In case of extension of load, the normative charges will be applicable on the total load (existing as well as additional load demanded) as per the load slabs indicated above.*

***Table 10-17: Service connection charges for new underground connections as approved by the Commission***

| Sr. No. | Category | Existing service connection charges as per Case No. 19 of 2012 (Rs.) | Service connection charges proposed by MSEDCL (Rs.) | Service connection charges approved by the Commission (Rs.) |
|---|---|---|---|---|
| | **Inclusive of material cost of MSEDCL** | | | |
| **1** | **L.T. Supply** | | | |
| **A** | **Single Phase** | | | |
| i | For load up to 5 kW | 3,000 | 3,850 | 3,100 |
| ii | For loads above 5 kW & up to 10kW | 7,000 | 7,150 | 7,150 |
| **B** | **Three Phase** | | | |
| i | Motive power up to 27 HP or other loads up to 20 kW | 13,000 | 13,500 | 13,500 |
| ii | Motive power above 27 HP but up to 67 HP or for other loads above 20 kW but up to 50 kW | 20,000 | 21,000 | 21,000 |
| iii | Motive power above 67 HP but up to 134 HP or for other loads above 50 kW but up to 100 kW | 40,000 | 44,000 | 43,000 |
| iv | Motive power above 134 HP but up to 201 HP or for other loads above 100 kW but up to 150 kW | 61,000 | 67,050 | 66,500 |
| **2** | **H.T. Supply** | | | |
| i | H.T supply up to 500 kVA | 2,00,000 | 2,21,000 | 2,21,000 |
| ii | H.T supply above 500 kVA | 2,20,000 | 2,30,000 | 2,30,000 |

Note: 1) The road opening charges vary from area to area hence will be levied on actual basis.

2) In case MSEDCL permits an applicant to carry out the works through a Licensed Electrical Contractor (LEC), a rate of 1.30 % of the normative charges will be applicable towards supervision charges.

3) In case of extension of load, the normative charges will be applicable on the total load (existing as well as additional load demanded) as per the load slabs indicated above.

## 10.6. Cost of meter and meter box

10.6.1. As per Section 14.1.3 of MERC (Electricity Supply Code and Other Conditions of Supply) Regulations, 2005, a consumer of a distribution licensee can purchase a meter from the distribution licensee or from any supplier of correct meter in accordance with the specifications laid down by CEA.

10.6.2. MSEDCL submitted that it procures meter in bulk which leads to greater savings. Hence, proposed costs kept at same level as approved in Order dated 16 August 2012.

10.6.3. The Commission verified the meter costs proposed by MSEDCL on the basis of 6-year CAGR of WPI index and found the rates to be reasonable. Accordingly, the Commission approves the rates proposed by MSEDCL as indicated in table below, which would be applicable only in case of a burnt or a lost meter or where a consumer opts to purchase the meter from MSEDCL.

***Table 10-18: Cost of meter and meter box approved by the Commission***

| Sr. No. | Type | Existing service connection charges as per Order in Case No. 19 of 2012 (Rs.) | Proposed charges (Rs.) | Charges Approved (Rs.) |
|---|---|---|---|---|
| | Applicable in case consumer opts to purchase the meter from MSEDCL & in case of Lost & Burnt Meter | | | |
| 1 | Single Phase Meter without box | | | |
| | a) Plain Meter | 600 | 600 | 600 |
| | b) RF Meter | 1,500 | 1,500 | 1,500 |
| | c) Pre-Paid Meter | 2,700 | 2,700 | 2,700 |
| | d) Pre-Paid Meter Interface | 900 | 900 | 900 |
| 2 | Three Phase Meter without box | 2,500 | 2,500 | 2,500 |
| 3 | H.T. ToD Meter | 4,000 | 4,000 | 4,000 |
| | Applicable in case consumer opts to purchase the metering cabinet/cubicle from MSEDCL | | | |

| Sr. No. | Type | Existing service connection charges as per Order in Case No. 19 of 2012 (Rs.) | Proposed charges (Rs.) | Charges Approved (Rs.) |
|---|---|---|---|---|
| 4 | **C.T. operated metering cabinet including CTs, MCCB & meter** | | | |
| | a) 50/5A | 21,000 | 21,000 | 21,000 |
| | b) 100/5A | 22,500 | 22,500 | 22,500 |
| | c) 150/5A | 22,500 | 22,500 | 22,500 |
| | d) 200/5A | 22,500 | 22,500 | 22,500 |
| | e) 250/5A | 22,500 | 22,500 | 22,500 |
| 5 | H.T. Metering Cubicle including C.T. & P.T. | | | |
| | a) 11kV | 82,200 | 85,000 | 85,000 |
| | b) 22kV | 130,000 | 130,000 | 130,000 |
| | c) 33kV | 190,000 | 190,000 | 190,000 |

*(Note: # Meter box will be provided by MSEDCL at its own cost.)*

### 10.7. Miscellaneous and general charges

**MSEDCL Submission**

**(1) Installation testing fees**

10.7.1. Regulation 9 of MERC (Electricity Supply Code and Other Conditions of Supply) Regulations, 2005 provides that the wiring of consumer's premises shall conform to the standards specified in the Indian Electricity Rules, 1956. As per Rule 47, it is the duty of the supplier to inspect and test applicant's installation before connecting the supply. As per Rule 53(1), the cost of first inspection and testing of a consumer's installation carried out in pursuance of the provisions of Rule 47 shall be borne by the supplier and the cost of every subsequent inspection and test shall be borne by the consumer.

10.7.2. The first testing of a consumer's installation will be free of cost as done currently. For every subsequent inspection and test, it proposed higher rates of installation testing fees than existing rates, considering the increase in labour cost.

**(2) Reconnection charges**

10.7.3. With regard to reconnection charges, MSEDCL stated that it has proposed higher rates considering the increase in labour cost. It also proposed that such higher charges in conjunction with timely disconnection may act as a deterrent factor to a certain extent and may motivate the consumers to pay the energy bills on time. This is for encouraging prompt payment and to discourage the consumer from becoming a defaulter.

**(3) Changing location of the meters within the same premise at consumer's request**

10.7.4. MSEDCL submitted that it has proposed higher rates for changing location of the meters within the same premise at consumer's request, considering the increase in cost of material, labour and all other costs, etc. required for changing location of meter.

**(4) Testing of meters**

10.7.5. MSEDCL submitted that it has proposed charges for testing of meters considering the increase in labour cost, testing equipment cost, maintenance cost, duration of testing, etc.

10.7.6. Further, MSEDCL stated that testing charges proposed for single phase (1Ph.), three phase (3Ph), LTCT Operated (3ph), HT TOD & ABT/Apex meter having different applicable IS. The testing charges have been proposed based on type of meter, duration for testing, and its accuracy class. Hence the rates for testing charges are varying accordingly. Also, considering the costly automatic equipment service maintenance, electricity cost and all other costs, the proposed rates are on the higher side.

**(5) Administrative charges for cheque bouncing**

10.7.7. When a cheque is dishonoured, it is considered to be an offence as per Section 138 of the Negotiable Instruments Act, 1881. The issuer of such cheque can also face legal action. As MSEDCL is not an authority to impose any punishment for such offence under the law, it is not authorized to levy any penal charges. However, it may recover charges towards bank charges and administration expenses towards bouncing of cheque.

10.7.8. MSEDCL submitted to revise penalty charges for cheque bouncing from Rs. 350 to Rs. 1500 irrespective of cheques amount.

10.7.9. MSEDCL has not proposed any changes in Testing of equipment like CT/ PT and testing of Meter at TQA Labs.

10.7.10. MSEDCL has also proposed Charges of Rs. 300 for issuance of Notice under Section 56 of the Electricity Act, 2003.

**Commission's Analysis and Rulings**

10.7.11. The Commission notes that MSEDCL has provided detailed computation justifying its request for increasing various miscellaneous and general charges for providing various services to the consumers. As part of submission, MSEDCL has provided details of average cost incurred on its manpower and time taken by them in providing such services. Based on these details, MSEDCL has arrived at the revised charges. However, the Charges workout by MSEDCL seems to be on higher side.

10.7.12. The Commission notes that in its calculation, MSEDCL has allocated 100% cost of concerned employee to the activity. However, most of the cases such employees are also performing various other works and hence it is not appropriate to assume 100% allocation of employee expenses to such activity. Also time take to perform such activities has not been substantiated with any documentary evidence or industrial standards.

10.7.13. In view of above, as most of the activities are labour incentive, the Commission has considered the six year average of Consumer Price Index published by the Labour Bureau, Government of India to escalate previously approved charges in Order dated 16 August, 2012 on compounded basis. Accordingly, approved charges for Miscellaneous and General activities are mentioned in table below.

10.7.14. The Commission note that MSEDCL has newly proposed Charges for issuing Notice under Section 56 of the Electricity Act, 2003. In this regard, the Commission notes that in this Order the Commission has allowed MSEDCL to use electronic medium such as Whatsapp, email etc. which will not only reduce the administrative expenses of MSEDCL but also free its human resources to other services. Hence, the Commission is not inclined to approve Charges for issuance of Notice under Section 56 of the Electricity Act, 2003.

10.7.15. MSEDCL has not proposed any changes in Testing of equipment like CT/ PT and testing of Meter at TQA Labs. Hence, the Commission continues the charges for such activities as approved in Order dated 16 August 2012.

10.7.16. Regarding, proposed cheque bouncing charges of Rs. 1500 irrespective of cheques amount, the Commission notes that such charges are in punitive nature and will create deterrent to the will full defaulters. Hence, the Commission approves the cheque bouncing charges as proposed by MSEDCL.

***Table 10-19: Miscellaneous and General Charges as approved by the Commission***

| Sr. No. | Category | Existing Charges as per Order in Case No. 19 of 2012 (Rs.) | Proposed charges(Rs.) | Approved charges (Rs.) |
|---|---|---|---|---|
| **1** | **Installation Testing Fees #** | | | |
| | Low Tension Service | | | |
| | a) Single phase | 50 | 150 | 100 |
| | b) Three phase | 100 | 300 | 200 |
| | High Tension Service | 350 | 1000 | 550 |
| **2** | **Reconnection Charges** | | | |
| | **Low Tension Service at Meter incomer** | | | |
| | a) Single phase | 50 | 300 | 100 |
| | b) Three phase | 100 | 500 | 200 |
| | At overhead mains: | | | |
| | a) Single phase | 50 | 300 | 100 |
| | b) Three phase | 100 | 500 | 200 |
| | At underground mains: | | | |
| | a) Single phase | 100 | 500 | 200 |
| | b) Three phase | 100 | 500 | 200 |
| | High Tension Supply: | 500 | 3,000 | 800 |
| **3** | **Charges for Notice U/s 56 of EA 2003** | NIL | 300 | NIL |
| **4** | **Changing location of meter within same premises at consumers request *** | 200 | 900 | 350 |

| Sr. No. | Category | Existing Charges as per Order in Case No. 19 of 2012 (Rs.) | Proposed charges(Rs.) | Approved charges (Rs.) |
|---|---|---|---|---|
| 5 | **A. Testing of meters** | | | |
| | a) Single phase | 150 | 300 | 200 |
| | b) Polyphase meter/ RKVAH meter | 500 | 800 | 800 |
| | c) LTMD (with/without CTs) | 900 | 1,100 | 1,000 |
| | d) Trivector meter | 1000 | 1,400 | 1,000 |
| | e) Metering equipment like CT/PT per unit for LT | 1,000 | 1,000 | 1,000 |
| | f) Metering equipment like CT/PT per unit for HT up to and including 33 kV | 3,000 | 3,000 | 3,000 |
| | g) Metering equipment like CT/PT per unit for EHT above 33 kV | 5,000 | 5,000 | 5,000 |
| | **B. Testing of Meters at TQA Laboratories** | | | |
| | a) Single Phase | 2,000 | 2,000 | 2,000 |
| | b) Three Phase | 9,500 | 9,500 | 9,500 |
| | c) LT CTOP Meters | 10,000 | 10,000 | 10,000 |
| | d) HT ToD Meters | 15,000 | 15,000 | 15,000 |
| | e) ABT/Apex | 20,000 | 20,000 | 20,000 |
| 6 | **Administrative charges for cheque bouncing** | Rs. 350 irrespective of cheque amount | Rs. 1,500/- or Bank charges whichever is higher | Rs. 500/- irrespective of cheque amount |

*# Applicable only after first inspection for the release of new service connection*
** Inclusive of material, labour and all other costs.*
*Service tax will be levied extra as per applicable rates.*

### 10.8. Application registration and processing charges

**MSEDCL Submission**

10.8.1. MSEDCL submitted that a consumer can submit application for provision of electricity supply, sanction of additional load, shifting of service, etc. MSEDCL added that as per

Regulation 4.1 (ix) of MERC Supply Code Regulations 2005, a distribution licensee can recover fees for processing such applications.

10.8.2. MSEDCL reported that after receipt of application form, it is primarily required to conduct the following activities:

a) Verification and scrutiny of existing location of applicant;

b) Scrutiny of past dues, if any;

c) Existing facility / infrastructure at consumer premises (service line, meter board, etc.);

d) Provision of electrical network and equipment; and

e) Verification of compliances from consumer (payment of charges and appropriate wiring / distribution).

For the above activities, man-power cost of both in house and outsourced are required. Along with it A&G costs are also involved for print & stationery, courier services, scanning and uploading of applications etc.

**Commission's Analysis and Ruling**

10.8.3. The Commission had expressed its views in context of the above mentioned activities vide the Order dated September 8, 2006 in Case No. 70 of 2005. The relevant portion of the said order is reproduced herein under:

"*However, all the above activities fall under normal activities of the Licensee's staff. As the expenditure on the staff is covered under ARR, the Processing fee should not include the expenditure towards the staff employed for processing the application to avoid double accounting. At the same time the Commission feels that there should be a minimum barrier to discourage frivolous or non-serious consumers.*"

10.8.4. Accordingly, the Commission has considered the six year average of CPI and WPI with 50% weightage to each for escalate previously approved charges in Order dated 16 August, 2012. Accordingly, approved charges for application registration and processing are mentioned in table below:

***Table 10-20: Application registration and processing charges approved by the Commission***

| Category | Existing service connection charges as per Order in Case No. 19 of 2012 (Rs.) | Proposed charges (Rs.) | Approved charges (Rs.) |
|---|---|---|---|
| New connection/ Change of name/Reduction or Enhancement of load/ Shifting of service/ Temporary connection | | | |
| a) Single phase | 50 | 100 | 100 |
| b) Three phase | 100 | 200 | 150 |
| c) LT (Agricultural) | 100 | 200 | 150 |
| d) HT supply up to 33 kV | 1,700 | 3,400 | 2,400 |
| e) EHV Supply | 3,400 | 6,800 | 4,800 |

### 10.9. Schedule of Charges for Open Access

**MSEDCL Submission**

**Processing and operating charges for Open Access**

10.9.1. In response to query, MSEDCL has stated various reasons for revising the processing fees and charges under SoC mentioned below:

1. As per MERC Distribution Open Access Regulation 2016 an open access consumer can avail open access from multiple generators and multiple sources. Due to this number of applications have increased.
2. MSEDCL has developed online system for submission of application for availing open access.
3. The number of consumers availing short term open access are more, the consumers apply every month for STOA and upload the required the documents in the online system having 50 to 100 MB Capacity. Thus, MSEDCL have to purchase additional storage space to save all the documents every month in the online system.

4. A separate IT system is developed for proper operation of the online system for submission arid processing of open access applications.
5. MSEDCL has developed online system for the paying the processing fees with the application. Thus, MSEDCL has to pay service charges to service provider of online payment system.
6. As per MERC Distribution Open Access Regulation 2016 if the open access application is incomplete or otherwise deficient, it is communicated to the applicant by mail or fax within five working days of receipt of the application.
7. The information of open access consumers like list of open access applications, date of application, open access quantum, generating stations, period of open access, action taken and status is provided in downloadable format on internet website every month.
8. Execution of Open Access Agreement.
9. Issuance of Periodical Open Access permissions.
10. Maintaining OA consumer record and recording change of name/change of ownership, if any.

10.9.2. MSEDCL proposed a processing fee and operating charges of Open Access as shown in below table.

***Table 10-21: Processing and operating charges proposed by MSEDCL***

<table>
<tr><th>Load requisitioned</th><th>One time processing fee per application (Rs.)</th><th>Operating charges per month (Rs.)</th></tr>
<tr><td>Upto 1 MW</td><td>15,000</td><td rowspan="2">20,000</td></tr>
<tr><td>More than 1 MW and up to 5 MW</td><td>25,000</td></tr>
<tr><td>More than 5 MW and up to 20 MW</td><td>45,000</td><td rowspan="3">40,000</td></tr>
<tr><td>More than 20 MW and up to 50 MW</td><td>60,000</td></tr>
<tr><td>More than 50 MW</td><td>75,000</td></tr>
</table>

**Commission's Analysis and Rulings**

10.9.3. The Commission noticed that MSEDCL did not submit the expense heads for processing fee and operating charges/fees and detailed justification thereof. MSEDCL has submitted common reasons and explanation for all proposed charges for Open Access i.e. application processing charges and operating charges.

10.9.4. Though MSEDCL has mentioned the activities required to be carried out for Open Access consumers, the Commission is of the view that most of the above activities fall under normal activities of MSEDCL as a licensee. At the same time the Commission is of the view that there are a few services required to be provided by MSEDCL to Open Access consumers, where MSEDCL may incur some costs. The Commission also notes that MSEDCL has introduced various online facilities for the benefit of the Open Access consumers.

10.9.5. However, in the absence of any detailed justification and computations, the Commission considered the six year average of CPI and WPI with 50% weightage to each  for escalate previously approved charges in Order dated 16 August, 2012. Accordingly, approved the processing fee per application and operating charges per month as indicated in the table below.

10.9.6. The summary of Open Access charges approved by the Commission is given below:

***Table 10-22: Processing and operating charges approved by the Commission***

<table>
<tr><th>Load Requisitioned</th><th>Processing fee per application (Rs.)</th><th>Operating Charges per month (Rs.)</th></tr>
<tr><td>Upto 1 MW</td><td>14,500</td><td rowspan="2">14,500</td></tr>
<tr><td>More than 1 MW and up to 5 MW</td><td>22,000</td></tr>
<tr><td>More than 5 MW and up to 20 MW</td><td>44,000</td><td rowspan="3">28,000</td></tr>
<tr><td>More than 20 MW and up to 50 MW</td><td rowspan="2">75,000</td></tr>
<tr><td>More than 50 MW</td></tr>
</table>

## 11. APPLICABILITY OF THE ORDER

11.1.1. This Order shall come into effect from 1 September, 2018.

11.1.2. The Petition of Maharashtra State Electricity Distribution Company Limited in Case No. 195 of 2017 stands disposed of accordingly.

| | |
|---|---|
| **Sd/-** | **Sd/-** |
| **(Mukesh Khullar)** | **(I. M. Bohari)** |
| **Member** | **Member** |

**(Abhijit Deshpande)**
**Secretary**

# ANNEXURE – I :- REVENUE
## (Revenue from revised Tariff effective from 1 September, 2018*)

| Category | No. of Consumers | Fixed/Demand Charge | | Variable Charges | | Energy Sales (MU) | Connected Load/ Contract Demand | Revenue (Rs. Crore) | | | | | | ABR (Rs./ kWh) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Unit | Rate | Energy Charge (Rs/ kWh) | Wheeling Charge $ (Paisa/ kWh)* | | | Fixed / Demand Charge | Energy Charge | Wheeling Charge | Total Revenue | ToD Rebate | Net Revenue | |
| **HT Category** | | | | | | | | | | | | | | |
| HT I(A): HT - Industry (General) | 13,658 | Rs./kVA/Month | 350.00 | 7.10 | 29.40 | 28,545.71 | 10,800,833 | 2,833.80 | 20,267.45 | 837.03 | 23,938.28 | (532.84) | 23,405.44 | 8.20 |
| HT I(C): HT - Industry (Seasonal) | 452 | Rs./kVA/Month | 350.00 | 7.40 | 29.40 | 101.93 | 58,209 | 15.11 | 75.43 | 5.10 | 95.64 | (1.78) | 93.86 | 9.21 |
| **HT I - Industry (Sub-Total)** | **14,110** | | | | | **28,647.64** | **10,859,042** | **2,848.91** | **20,342.88** | **842.12** | **24,033.92** | **(534.62)** | **23,499.30** | **8.20** |
| HT II: HT - Commercial | 3,024 | Rs./kVA/Month | 350.00 | 11.50 | 43.34 | 1,840.33 | 1,218,331 | 333.20 | 2,116.38 | 95.66 | 2,545.24 | (6.38) | 2,538.86 | 13.80 |
| HT III: HT - Railways/Metro/Monorail Traction | 76 | Rs./kVA/Month | 350.00 | 7.00 | 43.34 | 59.25 | 35,874 | 7.53 | 41.48 | 2.03 | 51.03 | - | 51.03 | 8.61 |
| HT IV: HT - Public Water Works (PWW) | 959 | Rs./kVA/Month | 350.00 | 6.30 | 43.34 | 1,584.10 | 426,773 | 116.51 | 997.98 | 66.94 | 1,181.43 | (29.00) | 1,152.44 | 7.28 |
| HT V(A): HT - Agriculture Pumpsets | 1,038 | Rs./kVA/Month | 60.00 | 3.68 | 43.34 | 784.76 | 560,782 | 21.01 | 288.79 | 13.75 | 323.55 | - | 323.55 | 4.12 |
| HT V(B)): HT - Agriculture Others | 389 | Rs./kVA/Month | 60.00 | 5.08 | 43.34 | 239.25 | 87,726 | 4.11 | 121.54 | 12.01 | 137.66 | - | 137.66 | 5.75 |
| HT V: HT - Group Housing Societies (Residential) | 375 | Rs./kVA/Month | 300.00 | 5.73 | 43.34 | 217.33 | 104,940 | 24.43 | 124.53 | 11.65 | 160.60 | - | 160.60 | 7.39 |
| HT VIII(B): HT - Temporary Supply Others (TSO) | 11 | Rs./kVA/Month | 375.00 | 11.75 | 43.34 | 4.32 | 3,180 | 0.88 | 5.08 | 0.21 | 6.17 | - | 6.17 | 14.27 |
| HT IX(A): HT - Public Services-Government | 330 | Rs./kVA/Month | 350.00 | 7.70 | 43.34 | 225.19 | 94,347.25 | 25.66 | 173.40 | 11.82 | 210.88 | (2.40) | 208.48 | 9.26 |
| HT IX(B): HT - Public Services-Others | 954 | Rs./kVA/Month | 350.00 | 9.65 | 43.34 | 767.41 | 371,168.67 | 99.95 | 740.55 | 33.94 | 874.44 | (8.04) | 866.40 | 11.29 |
| HT - MSPGCL-Aux Supply | 30 | | - | - | - | 218.25 | 165,381.52 | - | - | - | - | - | - | |
| **Sub-Total HT Category** | **20,907** | | | | | **34,587.83** | **13,927,544.76** | **3,482.18** | **24,952.60** | **1,090.13** | **29,524.92** | **-580.43** | **28,944.49** | **8.37** |
| | | | | | | | | | | | | | - | |
| **LT Category** | | | | | | | | | | | | | - | |
| LT I(A): LT - Residential-BPL Category (0-30 units) | 176,751 | Rs./Connection /Month | 20.00 | 1.06 | - | 54.35 | 18,545 | 4.24 | 5.76 | - | 10.00 | - | 10.00 | 1.84 |
| **LT I(B): LT - Residential** | 18,629,085 | | | | | 19,509.88 | 20,063,181 | 1,788.39 | 9,227.71 | 2,536.28 | 13,552.39 | - | 13,552.39 | 6.95 |

| Category | No. of Consumers | Fixed/Demand Charge | | Variable Charges | | Energy Sales (MU) | Connected Load/ Contract Demand | Revenue (Rs. Crore) | | | | | | ABR (Rs./ kWh) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Unit | Rate | Energy Charge (Rs/ kWh) | Wheeling Charge $ (Paisa/ kWh)* | | | Fixed / Demand Charge | Energy Charge | Wheeling Charge | Total Revenue | ToD Rebate | Net Revenue | |
| 0-100 | 13,204,374 | Rs./Connection /Month | 80.00 | 3.00 | 130.00 | 12,498.31 | 14,220,867 | 1,267.62 | 3,749.49 | 1,624.78 | 6,641.89 | - | 6,641.89 | 5.31 |
| 101-300 | 4,762,440 | Rs./Connection /Month | 80.00 | 6.73 | 130.00 | 4,985.44 | 5,129,060 | 457.19 | 3,355.20 | 648.11 | 4,460.50 | - | 4,460.50 | 8.95 |
| 301-500 | 463,141 | Rs./Connection /Month | 80.00 | 9.75 | 130.00 | 863.28 | 498,794 | 44.46 | 841.70 | 112.23 | 998.39 | - | 998.39 | 11.57 |
| 501-1000 | 152,827 | Rs./Connection /Month | 80.00 | 10.50 | 130.00 | 559.60 | 164,592 | 14.67 | 587.58 | 72.75 | 675.00 | - | 675.00 | 12.06 |
| Above 1000 | 46,303 | Rs./Connection /Month | 80.00 | 11.50 | 130.00 | 603.25 | 49,867 | 4.45 | 693.74 | 78.42 | 776.61 | - | 776.61 | 12.87 |
| Three Phase Connection | - | Rs./Connection /Month | 300.00 | - | - | - | - | - | - | - | - | - | - | |
| **LT I: LT - Residential (Sub-Total)** | **18,805,836** | | | | | **19,564.23** | **20,081,726** | **1,792.63** | **9,233.47** | **2,536.28** | **13,562.39** | **-** | **13,562.39** | **6.93** |
| LT II(A): LT - Non-Residential (0-20 kW) (0-200 units) | 892,238 | Rs./Connection /Month | 350.00 | 6.00 | 130.00 | 2,131.68 | 1,784,155 | 374.74 | 1,279.01 | 277.12 | 1,930.87 | - | 1,930.87 | 9.06 |
| LT II(A): LT - Non-Residential (0-20 kW) (Above 200 units) | 880,348 | Rs./Connection /Month | 350.00 | 9.20 | 130.00 | 2,103.27 | 892,078 | 369.75 | 1,935.01 | 273.43 | 2,578.18 | - | 2,578.18 | 12.26 |
| LT II(A): LT - Non-Residential (0-20 kW) (Sub-Total) | 1,772,586 | | | | | 4,234.95 | 2,676,233 | 744.49 | 3,214.02 | 550.54 | 4,509.05 | - | 4,509.05 | 10.65 |
| LT II(B): LT - Non-Residential (>20 kW and ≤ 50 kW) | 23,573 | Rs./kVA/Month | 350.00 | 9.30 | 130.00 | 850.11 | 785,353 | 214.40 | 790.60 | 110.51 | 1,115.52 | 1.31 | 1,116.83 | 13.14 |
| LT II(C): LT - Non-Residential (Above 50 kW) | 5,495 | Rs./kVA/Month | 350.00 | 11.60 | 130.00 | 493.31 | 541,771 | 147.90 | 572.24 | 64.13 | 784.27 | 1.38 | 785.66 | 15.93 |
| **LT II: LT - Non-Residential (Sub-Total)** | **1,801,654** | | | | | **5,578.37** | **4,003,358** | **1,106.79** | **4,576.86** | **725.19** | **6,408.84** | **2.69** | **6,411.53** | **11.49** |
| LT III(A): LT - Public Water Works (0-20 kW) | 50,864 | Rs./kVA/Month | 90.00 | 2.15 | 130.00 | 603.58 | 243,177 | 17.07 | 129.77 | 78.47 | 225.31 | - | 225.31 | 3.73 |
| LT III(B): LT - Public Water Works (>20 kW-40 kW) | 932 | Rs./kVA/Month | 110.00 | 3.50 | 130.00 | 80.11 | 29,993 | 2.57 | 28.04 | 10.41 | 41.03 | - | 41.03 | 5.12 |
| LT III (C): LT - Public Water Works (Above 40 kW) | 381 | Rs./kVA/Month | 140.00 | 4.80 | 130.00 | 62.57 | 25,269 | 2.76 | 30.03 | 8.13 | 40.93 | - | 40.93 | 6.54 |
| **LT III: LT - Public Water Works (Sub-Total)** | **52,177** | | | | | **746.26** | **298,440** | **22.40** | **187.84** | **97.01** | **307.26** | **-** | **307.26** | **4.12** |
| LT IV(A): LT - AG Un-metered-Pumpsets (Category 1 Zones) | **320,925** | | | | | **2,193.48** | **1,586,170** | **687.57** | **-** | **241.73** | **929.30** | **-** | **929.30** | **4.24** |

| Category | No. of Consumers | Fixed/Demand Charge | | Variable Charges | | Energy Sales (MU) | Connected Load/ Contract Demand | Revenue (Rs. Crore) | | | | | | ABR (Rs./ kWh) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Unit | Rate | Energy Charge (Rs/ kWh) | Wheeling Charge $ (Paisa/ kWh)* | | | Fixed / Demand Charge | Energy Charge | Wheeling Charge | Total Revenue | ToD Rebate | Net Revenue | |
| (a) 0 - 5 HP | 301978 | Rs./HP/Month | 355.00 | - | 127.00 | 1,874.42 | 1,355,453 | 577.42 | - | 206.57 | 783.99 | - | 783.99 | 4.18 |
| (b) > 5 HP - 7.5 HP | 18860 | Rs./HP/Month | 386.00 | - | 127.00 | 188.87 | 136,576 | 63.26 | - | 20.81 | 84.08 | - | 84.08 | 4.45 |
| (c) Above 7.5 HP | 87 | Rs./HP/Month | 415.00 | - | 127.00 | 130.19 | 94,142 | 46.88 | - | 14.35 | 61.23 | - | 61.23 | 4.70 |
| LT IV(A): LT - AG Un-metered-Pumpsets (Category 2 Zones) | **1,152,339** | | | | | **7,968.58** | **5,762,320** | **1,836.90** | **-** | **878.18** | **2,715.08** | **-** | **2,715.08** | **3.41** |
| (a) 0 - 5 HP | 1025446 | Rs./HP/Month | 255.00 | - | 127.00 | 5,959.39 | 4,309,410 | 1,318.68 | - | 656.75 | 1,975.43 | - | 1,975.43 | 3.31 |
| (b) > 5 HP - 7.5 HP | 124891 | Rs./HP/Month | 285.00 | - | 127.00 | 1,189.90 | 860,452 | 294.27 | - | 131.13 | 425.41 | - | 425.41 | 3.58 |
| (c) Above 7.5 HP | 2002 | Rs./HP/Month | 315.00 | - | 127.00 | 819.30 | 592,459 | 223.95 | - | 90.29 | 314.24 | - | 314.24 | 3.84 |
| **LT IV(A): LT - AG Un-metered-Pumpsets (Sub-Total)** | **1,473,264** | | | | | **10,162.06** | **7,348,490** | **2,524.47** | **-** | **1,119.91** | **3,644.38** | **-** | **3,644.38** | **3.59** |
| LT IV(B): LT -AG Metered-Pumpsets | 2,812,970 | Rs./HP/Month | 35.00 | 1.93 | 130.00 | 19,054.39 | 14,563,358 | 611.66 | 3,677.50 | 2,477.07 | 6,766.23 | - | 6,766.23 | 3.55 |
| LT IV(C): LT - AG Metered-Others | 26,178 | Rs./kW/Month | 110.00 | 3.26 | 130.00 | 136.08 | 106,453 | 14.05 | 44.36 | 17.69 | 76.10 | - | 76.10 | 5.59 |
| **LT IV - LT - Agriculture (Sub-Total)** | **4,312,412** | | | | | **29,352.54** | **22,018,301** | **3,150.18** | **3,721.86** | **3,614.67** | **10,486.71** | **-** | **10,486.71** | **3.57** |
| LT V(A)(i) - Industry - Powerlooms (0 - 20 kW) | 28,858 | Rs./Connection /Month | 350.00 | 4.65 | 130.00 | 790.95 | 347,135 | 12.12 | 367.79 | 102.82 | 482.74 | - | 482.74 | 6.10 |
| LT V(A)(ii) - Industry - Powerlooms (Above 20 kW) | 5,055 | Rs./kVA/Month | 280.00 | 5.85 | 130.00 | 1,195.37 | 299,835 | 65.48 | 699.29 | 155.40 | 920.17 | (25.11) | 895.07 | 7.49 |
| LT V(A) - Industry - Powerlooms (Sub-Total) | 33,913 | | | | | 1,986.32 | 646,970 | 77.60 | 1,067.08 | 258.22 | 1,402.91 | (25.11) | 1,377.80 | 6.94 |
| LT V(B)(i) - Industry - General (0 - 20 kW) | 233,825 | Rs./Connection /Month | 350.00 | 4.76 | 130.00 | 1,649.40 | 2,553,335 | 98.21 | 785.11 | 214.42 | 1,097.74 | - | 1,097.74 | 6.66 |
| LT V(B)(ii) - Industry - General (Above 20 kW) | 57,221 | Rs./kVA/Month | 280.00 | 5.63 | 130.00 | 3,214.12 | 3,175,936 | 693.62 | 1,809.55 | 417.84 | 2,921.01 | (6.78) | 2,914.23 | 9.07 |
| LT V(B) - Industry - General (Sub-Total) | 291,046 | | | | | 4,863.52 | 5,729,270 | 791.83 | 2,594.66 | 632.26 | 4,018.75 | (6.78) | 4,011.97 | 8.25 |

| Category | No. of Consumers | Fixed/Demand Charge | | Variable Charges | | Energy Sales (MU) | Connected Load/ Contract Demand | Revenue (Rs. Crore) | | | | | | ABR (Rs./ kWh) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Unit | Rate | Energy Charge (Rs/ kWh) | Wheeling Charge $ (Paisa/ kWh)* | | | Fixed / Demand Charge | Energy Charge | Wheeling Charge | Total Revenue | ToD Rebate | Net Revenue | |
| **LT V - Industry (Sub-Total)** | **324,959** | | | | | **6,849.84** | **6,376,240** | **869.44** | **3,661.75** | **890.48** | **5,421.66** | **(31.89)** | **5,389.78** | **7.87** |
| LT VI (A) Street Light-Gram Panchayat, A,B&C Class MCs | 65,691 | Rs./Connection /Month | 100.00 | 4.59 | 130.00 | 1,451.63 | 196,232 | 23.55 | 666.30 | 188.71 | 878.56 | - | 878.56 | 6.05 |
| LT VI (B) Street Light - Municipal Corporation Areas | 27,138 | Rs./Connection /Month | 100.00 | 5.68 | 130.00 | 431.41 | 199,217 | 23.91 | 245.04 | 56.08 | 325.03 | - | 325.03 | 7.53 |
| **LT VI Street Light (Sub-Total)** | **92,829** | | | | | **1,883.04** | **395,449** | **47.45** | **911.34** | **244.80** | **1,203.59** | **-** | **1,203.59** | **6.39** |
| LT VI (A) - Temporary Supply Religious (TSR) | 661 | Rs./Connection /Month | 400.00 | 3.79 | 130.00 | 3.61 | 3,126 | 0.32 | 1.37 | 0.47 | 2.15 | - | 2.15 | 5.96 |
| LT VI (B) - Temporary Supply Others (TSO) | 3,001 | Rs./Connection /Month | 460.00 | 12.33 | 130.00 | 12.52 | 16,631 | 1.66 | 15.44 | 1.63 | 18.72 | - | 18.72 | 14.95 |
| **LT VI - Temporary Supply** | **3,662** | | | | | **16.13** | **19,757** | **1.97** | **16.81** | **2.10** | **20.87** | **-** | **20.87** | **12.94** |
| LT VIII - Advertisements and Hoardings | 2,387 | Rs./Connection /Month | 800.00 | 11.58 | 130.00 | 4.65 | 6,423 | 2.29 | 5.38 | 0.60 | 8.28 | - | 8.28 | 17.81 |
| LT IX - Crematorium & Burial Grounds | 198 | Rs./Connection /Month | 400.00 | 3.14 | 130.00 | 1.97 | 1,668 | 0.10 | 0.62 | 0.26 | 0.97 | - | 0.97 | 4.92 |
| **LT X (A) Public Services-Government** | | | | | | | | | | | | | - | |
| (i) 0-20 kW (0-200 Units) | 9,946 | Rs./Connection /Month | 310.00 | 2.90 | 130.00 | 17.40 | 13,207 | 3.70 | 5.04 | 2.26 | 11.01 | - | 11.01 | 6.33 |
| (i) 0-20 kW (Above 200 Units) | 9,946 | Rs./Connection /Month | 310.00 | 4.10 | 130.00 | 17.40 | 13,207 | 3.70 | 7.13 | 2.26 | 13.09 | - | 13.09 | 7.53 |
| (ii) 20 kW-50 kW | 323 | Rs./kVA/Month | 310.00 | 4.20 | 130.00 | 9.24 | 10,066 | 2.43 | 3.88 | 1.20 | 7.52 | (0.05) | 7.46 | 8.08 |
| (iii) Above 50 kW | 145 | Rs./kVA/Month | 310.00 | 5.40 | 130.00 | 8.30 | 8,103 | 1.96 | 4.48 | 1.08 | 7.52 | (0.04) | 7.48 | 9.02 |
| LT X (A) Public Services-Government (Sub-Total) | 20,359 | | | | | 52.33 | 44,582 | 11.79 | 20.54 | 6.80 | 39.13 | (0.09) | 39.05 | 7.46 |
| LT X (B) Public Services-Others | 138,549 | Rs./kVA/Month | 350.00 | 6.12 | 130.00 | 401.06 | 262,964 | 55.54 | 245.56 | 52.14 | 353.24 | (1.13) | 352.11 | 8.78 |
| **LT X Public Services** | **158,908** | | | | | **453.39** | **307,546** | **67.33** | **266.10** | **58.94** | **392.37** | **(1.22)** | **391.16** | **8.63** |
| LT Prepaid | - | | - | - | | | - | | | | | | - | |
| **Sub-Total LT Category** | **25,555,022** | | | | | **64,450.42** | **53,508,907.92** | **7,060.60** | **22,582.02** | **8,170.33** | **37,812.95** | **(30.41)** | **37,782.54** | **5.86** |

| Category | No. of Consumers | Fixed/Demand Charge | | Variable Charges | | Energy Sales (MU) | Connected Load/ Contract Demand | Revenue (Rs. Crore) | | | | | | ABR (Rs./ kWh) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Unit | Rate | Energy Charge (Rs/ kWh) | Wheeling Charge $ (Paisa/ kWh)* | | | Fixed / Demand Charge | Energy Charge | Wheeling Charge | Total Revenue | ToD Rebate | Net Revenue | |
| **Distribution Franchisees** | | | | | | | | | | | | | | |
| Bhiwandi | | | - | 3.88 | - | 3,824.30 | | - | 1,484 | - | 1,484 | | 1,484 | 3.88 |
| Nagpur | | | - | 6.61 | - | 1,653.25 | | - | 1,093 | - | 1,093 | | 1,093 | 6.61 |
| Stand By Charges | | | | | | | | - | 396 | - | 396 | | 396 | |
| LF/PF Incentives/EHV Rebate | | | | | | | | - | (886) | - | (886) | | (886) | |
| | | | | | | | | | | | - | | - | |
| **MSEDCL Total Revenue** | **25,575,929.00** | | | | | **104,515.79** | **67,436,452.68** | **10,542.78** | **49,620.92** | **9,260.46** | **69,424.16** | **(610.84)** | **68,813.32** | **6.58** |

*Though the Tariff is effective from 1st September ,2018 the revenue has been computed for entire FY 2018-19

$ Wheeling charges in Paisa/kWh for HT category weighted average of wheeling charges for (EHV, 33 kV, 22 kV & 11 kV) and not the actual rate

** ABR considering sales at input level for DFs

# ANNEXURE – II :- REVENUE
## (Revenue from revised Tariff effective from 1 April, 2019)

| Category | No. of Consumers | Fixed/Demand Charge | | Variable Charges | | Energy Sales (MU) | Connected Load/ Contract Demand | Revenue (Rs. Crore) | | | | | | ABR (Rs./ kWh) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Unit | Rate | Energy Charge (Rs/ kWh) | Wheeling Charge$ (Paisa/ kWh) | | | Fixed / Demand Charge | Energy Charge | Wheeling Charge | Total Revenue | ToD Rebate | Net Revenue | |
| **HT Category** | | | | | | | | | | | | | | |
| HT I(A): HT - Industry (General) | 14,091 | Rs./kVA/Month | 391.00 | 7.07 | 28.33 | 29,105.86 | 11,144,076.37 | 3,656.77 | 20,577.84 | 822.60 | 25,057.22 | (543.08) | 24,514.14 | 8.42 |
| HT I(C): HT - Industry (Seasonal) | 452 | Rs./kVA/Month | 391.00 | 7.34 | 28.33 | 101.98 | 58,208.75 | 19.43 | 74.85 | 4.96 | 99.24 | (1.78) | 97.46 | 9.56 |
| **HT I - Industry (Sub-Total)** | **14,543** | | | | | **29,207.84** | **11,202,285** | **3,676.20** | **20,652.70** | **827.56** | **25,156.46** | **(544.86)** | **24,611.60** | **8.43** |
| HT II: HT - Commercial | 3,060 | Rs./kVA/Month | 391.00 | 11.73 | 42.54 | 1,840.33 | 1,222,209.27 | 360.40 | 2,158.71 | 93.62 | 2,612.73 | (6.38) | 2,606.35 | 14.16 |
| HT III: HT - Railways/Metro/Monorail Traction | 76 | Rs./kVA/Month | 391.00 | 7.00 | 42.54 | 59.25 | 35,873.92 | 9.24 | 41.48 | 1.97 | 52.69 | - | 52.69 | 8.89 |
| HT IV: HT - Public Water Works (PWW) | 968 | Rs./kVA/Month | 391.00 | 6.30 | 42.54 | 1,647.46 | 446,414.25 | 157.09 | 1,037.90 | 69.74 | 1,264.73 | (30.16) | 1,234.57 | 7.49 |
| HT V(A): HT - Agriculture Pumpsets | 1,034 | Rs./kVA/Month | 69.00 | 3.77 | 42.54 | 804.12 | 583,322.92 | 26.74 | 303.15 | 13.71 | 343.60 | - | 343.60 | 4.27 |
| HT V(B)): HT - Agriculture Others | 390 | Rs./kVA/Month | 69.00 | 5.20 | 42.54 | 277.03 | 92,887.77 | 5.77 | 144.06 | 13.87 | 163.70 | - | 163.70 | 5.91 |
| HT V: HT - Group Housing Societies (Residential) | 394 | Rs./kVA/Month | 313.00 | 5.82 | 42.54 | 217.33 | 109,942.13 | 30.74 | 126.49 | 11.32 | 168.55 | - | 168.55 | 7.76 |
| HT VIII(B): HT - Temporary Supply Others (TSO) | 11 | Rs./kVA/Month | 391.00 | 12.00 | 42.54 | 4.32 | 3,180.25 | 1.05 | 5.18 | 0.20 | 6.43 | - | 6.43 | 14.89 |
| HT IX(A): HT - Public Services-Government | 351 | Rs./kVA/Month | 391.00 | 7.90 | 42.54 | 247.72 | 94,347.25 | 32.98 | 195.70 | 12.63 | 241.31 | (2.63) | 238.67 | 9.63 |
| HT IX(B): HT - Public Services-Others | 954 | Rs./kVA/Month | 391.00 | 9.70 | 42.54 | 769.01 | 363,990.53 | 125.84 | 745.94 | 32.49 | 904.27 | (8.19) | 896.09 | 11.65 |
| HT - MSPGCL-Aux Supply | 32 | | - | - | - | 218.25 | 173,515.18 | - | - | - | - | - | - | |
| **Sub-Total HT Category** | **21,423** | | | | | **35,292.66** | **14,327,968.60** | **4,426.06** | **25,411.30** | **1,077.12** | **30,914.47** | **(592.22)** | **30,322.26** | **8.59** |
| | | | | | | | | | | | | | - | |
| **LT Category** | | | | | | | | | | | | | - | |
| LT I(A): LT - Residential-BPL Category (0-30 units) | 176,751 | Rs./Connection/Month | 25.00 | 1.10 | - | 54.35 | 18,544.60 | 5.30 | 5.98 | - | 11.28 | - | 11.28 | 2.08 |
| **LT I(B): LT - Residential** | 19,349,159 | | | | | 20,282.28 | 21,286,258 | 2,089.71 | 9,981.82 | 2,596.13 | 14,667.66 | - | 14,667.66 | 7.23 |
| 0-100 | 13,714,765 | Rs./Connection/Month | 90.00 | 3.05 | 128.00 | 12,898.67 | 15,087,787.00 | 1,481.19 | 3,934.09 | 1,651.03 | 7,066.32 | - | 7,066.32 | 5.48 |
| 101-300 | 4,946,524 | Rs./Connection/Month | 90.00 | 6.95 | 128.00 | 5,197.44 | 5,441,734.00 | 534.22 | 3,612.22 | 665.27 | 4,811.72 | - | 4,811.72 | 9.26 |
| 301-500 | 481,043 | Rs./Connection/Month | 90.00 | 9.90 | 128.00 | 911.98 | 529,202.00 | 51.95 | 902.86 | 116.73 | 1,071.55 | - | 1,071.55 | 11.75 |
| 501-1000 | 158,735 | Rs./Connection/Month | 90.00 | 11.50 | 128.00 | 600.89 | 174,627.00 | 17.14 | 691.02 | 76.91 | 785.08 | - | 785.08 | 13.07 |
| Above 1000 | 48,093 | Rs./Connection/Month | 90.00 | 12.50 | 128.00 | 673.30 | 52,908.00 | 5.19 | 841.63 | 86.18 | 933.00 | - | 933.00 | 13.86 |

| Category | No. of Consumers | Fixed/Demand Charge | | Variable Charges | | Energy Sales (MU) | Connected Load/ Contract Demand | Revenue (Rs. Crore) | | | | | | ABR (Rs./ kWh) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Unit | Rate | Energy Charge (Rs/ kWh) | Wheeling Charge$ (Paisa/ kWh) | | | Fixed / Demand Charge | Energy Charge | Wheeling Charge | Total Revenue | ToD Rebate | Net Revenue | |
| Three Phase Connection | - | Rs./Connection/Month | 320.00 | - | - | - | - | - | - | - | - | - | - | |
| **LT I: LT - Residential (Sub-Total)** | **19,525,910** | | | | | **20,336.63** | **21,304,803** | **2,095.01** | **9,987.80** | **2,596.13** | **14,678.95** | **-** | **14,678.95** | **7.22** |
| LT II(A): LT - Non-Residential (0-20 kW) (0-200 units) | 929,852 | Rs./Connection/Month | 391.00 | 6.10 | 128.00 | 2,342.28 | 1,932,451.35 | 436.29 | 1,428.79 | 299.81 | 2,164.89 | - | 2,164.89 | 9.24 |
| LT II(A): LT - Non-Residential (0-20 kW) (Above 200 units) | 917,460 | Rs./Connection/Month | 391.00 | 9.25 | 128.00 | 2,311.07 | 1,932,451.35 | 430.47 | 2,137.74 | 295.82 | 2,864.03 | - | 2,864.03 | 12.39 |
| LT II(A): LT - Non-Residential (0-20 kW) (Sub-Total) | 1,847,312 | | | | | 4,653.35 | 3,864,903 | 866.76 | 3,566.53 | 595.63 | 5,028.92 | - | 5,028.92 | 10.81 |
| LT II(B): LT - Non-Residential (>20 kW and ≤ 50 kW) | 25,577 | Rs./kVA/Month | 391.00 | 9.30 | 128.00 | 929.25 | 842,538.09 | 296.49 | 864.20 | 118.94 | 1,279.64 | 1.43 | 1,281.07 | 13.79 |
| LT II(C): LT - Non-Residential (Above 50 kW) | 6,088 | Rs./kVA/Month | 391.00 | 11.60 | 128.00 | 540.15 | 595,948.33 | 209.71 | 626.57 | 69.14 | 905.43 | 1.52 | 906.94 | 16.79 |
| **LT II: LT - Non-Residential (Sub-Total)** | **1,878,977** | | | | | **6,122.75** | **5,303,389** | **1,372.96** | **5,057.31** | **783.71** | **7,213.98** | **2.95** | **7,216.93** | **11.79** |
| LT III(A): LT - Public Water Works (0-20 kW) | 51,904 | Rs./kVA/Month | 97.00 | 2.15 | 128.00 | 629.02 | 251,367.30 | 21.94 | 135.24 | 80.51 | 237.70 | - | 237.70 | 3.78 |
| LT III(B): LT - Public Water Works (>20 kW-40 kW) | 973 | Rs./kVA/Month | 117.00 | 3.50 | 128.00 | 84.87 | 31,017.01 | 3.27 | 29.70 | 10.86 | 43.83 | - | 43.83 | 5.16 |
| LT III (C): LT - Public Water Works (Above 40 kW) | 401 | Rs./kVA/Month | 146.00 | 4.80 | 128.00 | 66.42 | 27,141.61 | 3.57 | 31.88 | 8.50 | 43.95 | - | 43.95 | 6.62 |
| **LT III: LT - Public Water Works (Sub-Total)** | **53,278** | | | | | **780.31** | **309,526** | **28.78** | **196.83** | **99.88** | **325.48** | **-** | **325.48** | **4.17** |
| LT IV(A): LT - AG Un-metered-Pumpsets (Category 1 Zones) | **314,282** | | | | | **2,136.63** | **1,545,059** | **706.64** | **-** | **235.47** | **942.10** | **-** | **942.10** | **4.41** |
| (a) 0 - 5 HP | 295727 | Rs./HP/Month | 374.00 | - | 127.00 | 1,825.84 | 1,320,321.60 | 592.56 | - | 201.22 | 793.78 | - | 793.78 | 4.35 |
| (b) > 5 HP - 7.5 HP | 18470 | Rs./HP/Month | 403.00 | - | 127.00 | 183.97 | 133,036.13 | 64.34 | - | 20.27 | 84.61 | - | 84.61 | 4.60 |
| (c) Above 7.5 HP | 85 | Rs./HP/Month | 452.00 | - | 127.00 | 126.81 | 91,701.54 | 49.74 | - | 13.98 | 63.71 | - | 63.71 | 5.02 |
| LT IV(A): LT - AG Un-metered-Pumpsets (Category 2 Zones) | **1,128,482** | | | | | **7,762.05** | **5,612,971** | **2,022.02** | **-** | **855.42** | **2,877.44** | **-** | **2,877.44** | **3.71** |
| (a) 0 - 5 HP | 1004217 | Rs./HP/Month | 288.00 | - | 127.00 | 5,804.93 | 4,197,717.35 | 1,450.73 | - | 639.73 | 2,090.46 | - | 2,090.46 | 3.60 |
| (b) > 5 HP - 7.5 HP | 122305 | Rs./HP/Month | 316.00 | - | 127.00 | 1,159.06 | 838,150.18 | 317.83 | - | 127.73 | 445.56 | - | 445.56 | 3.84 |
| (c) Above 7.5 HP | 1960 | Rs./HP/Month | 366.00 | - | 127.00 | 798.06 | 577,103.05 | 253.46 | - | 87.95 | 341.41 | - | 341.41 | 4.28 |
| **LT IV(A): LT - AG Un-metered-Pumpsets (Sub-Total)** | **1,442,764** | | | | | **9,898.68** | **7,158,030** | **2,728.66** | **-** | **1,090.88** | **3,819.54** | **-** | **3,819.54** | **3.86** |
| LT IV(B): LT -AG Metered-Pumpsets | 2,988,308 | Rs./HP/Month | 40.00 | 2.09 | 128.00 | 21,090.67 | 16,119,693.98 | 773.75 | 4,407.95 | 2,699.61 | 7,881.30 | - | 7,881.30 | 3.74 |

| Category | No. of Consumers | Fixed/Demand Charge | | Variable Charges | | Energy Sales (MU) | Connected Load/ Contract Demand | Revenue (Rs. Crore) | | | | | | ABR (Rs./ kWh) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Unit | Rate | Energy Charge (Rs/ kWh) | Wheeling Charge$ (Paisa/ kWh) | | | Fixed / Demand Charge | Energy Charge | Wheeling Charge | Total Revenue | ToD Rebate | Net Revenue | |
| LT IV(C): LT - AG Metered-Others | 27,960 | Rs./kW/Month | 108.00 | 3.51 | 128.00 | 149.67 | 106,453.17 | 13.80 | 52.53 | 19.16 | 85.49 | - | 85.49 | 5.71 |
| **LT IV - LT - Agriculture (Sub-Total)** | **4,459,032** | | | | | **31,139.02** | **23,384,177** | **3,516.20** | **4,460.48** | **3,809.65** | **11,786.33** | **-** | **11,786.33** | **3.79** |
| LT V(A)(i) - Industry - Powerlooms (0 - 20 kW) | 28,761 | Rs./Connection/Month | 441.00 | 4.69 | 128.00 | 846.31 | 348,932.35 | 15.22 | 396.92 | 108.33 | 520.47 | - | 520.47 | 6.15 |
| LT V(A)(ii) - Industry - Powerlooms (Above 20 kW) | 5,308 | Rs./kVA/Month | 294.00 | 6.02 | 128.00 | 1,279.06 | 328,424.98 | 86.90 | 769.99 | 163.72 | 1,020.62 | (26.86) | 993.75 | 7.77 |
| LT V(A) - Industry - Powerlooms (Sub-Total) | 34,069 | | | | | 2,125.37 | 677,357 | 102.12 | 1,166.91 | 272.05 | 1,541.08 | (26.86) | 1,514.22 | 7.12 |
| LT V(B)(i) - Industry - General (0 - 20 kW) | 233,825 | Rs./Connection/Month | 441.00 | 4.81 | 128.00 | 1,731.88 | 2,530,864.25 | 123.74 | 833.03 | 221.68 | 1,178.46 | - | 1,178.46 | 6.80 |
| LT V(B)(ii) - Industry - General (Above 20 kW) | 58,536 | Rs./kVA/Month | 294.00 | 5.70 | 128.00 | 3,374.83 | 3,283,299.45 | 868.76 | 1,923.65 | 431.98 | 3,224.39 | (7.12) | 3,217.27 | 9.53 |
| LT V(B) - Industry - General (Sub-Total) | 292,361 | | | | | 5,106.71 | 5,814,164 | 992.50 | 2,756.69 | 653.66 | 4,402.85 | (7.12) | 4,395.73 | 8.61 |
| **LT V - Industry (Sub-Total)** | **326,430** | | | | | **7,232.08** | **6,491,521** | **1,094.62** | **3,923.60** | **925.71** | **5,943.93** | **(33.98)** | **5,909.95** | **8.17** |
| LT VI (A) Street Light-Gram Panchayat, A,B&C Class MCs | 65,885 | Rs./Connection/Month | 108.00 | 4.80 | 128.00 | 1,572.20 | 196,232.22 | 25.43 | 754.66 | 201.24 | 981.33 | - | 981.33 | 6.24 |
| LT VI (B) Street Light - Municipal Corporation Areas | 28,495 | Rs./Connection/Month | 108.00 | 5.85 | 128.00 | 441.56 | 219,138.97 | 28.40 | 258.31 | 56.52 | 343.23 | - | 343.23 | 7.77 |
| **LT VI Street Light (Sub-Total)** | **94,380** | | | | | **2,013.76** | **415,371** | **53.83** | **1,012.97** | **257.76** | **1,324.56** | **-** | **1,324.56** | **6.58** |
| LT VI (A) - Temporary Supply Religious (TSR) | 695 | Rs./Connection/Month | 443.00 | 3.27 | 128.00 | 3.61 | 3,438.07 | 0.37 | 1.18 | 0.46 | 2.01 | - | 2.01 | 5.57 |
| LT VI (B) - Temporary Supply Others (TSO) | 3,152 | Rs./Connection/Month | 449.00 | 12.79 | 128.00 | 12.52 | 17,991.37 | 1.70 | 16.01 | 1.60 | 19.31 | - | 19.31 | 15.43 |
| **LT VI - Temporary Supply** | **3,847** | | | | | **16.13** | **21,429** | **2.07** | **17.19** | **2.06** | **21.33** | **-** | **21.33** | **13.22** |
| LT VIII - Advertisements and Hoardings | 2,459 | Rs./Connection/Month | 833.00 | 12.00 | 128.00 | 5.15 | 6,827.29 | 2.46 | 6.18 | 0.66 | 9.30 | - | 9.30 | 18.05 |
| LT IX - Crematorium & Burial Grounds | 208 | Rs./Connection/Month | 438.00 | 3.26 | 128.00 | 2.18 | 1,834.64 | 0.11 | 0.71 | 0.28 | 1.10 | - | 1.10 | 5.04 |
| **LT X (A) Public Services-Government** | | | | | | | | | | | | | - | |
| (i) 0-20 kW (0-200 Units) | 10,443 | Rs./Connection/Month | 323.00 | 3.00 | 128.00 | 19.14 | 13,206.51 | 4.05 | 5.74 | 2.45 | 12.24 | - | 12.24 | 6.40 |
| (i) 0-20 kW (Above 200 Units) | 10,443 | Rs./Connection/Month | 323.00 | 4.20 | 128.00 | 19.14 | 13,206.51 | 4.05 | 8.04 | 2.45 | 14.53 | - | 14.53 | 7.60 |
| (ii) 20 kW-50 kW | 340 | Rs./kVA/Month | 323.00 | 4.30 | 128.00 | 10.36 | 10,573.11 | 3.07 | 4.45 | 1.33 | 8.85 | (0.06) | 8.80 | 8.49 |
| (iii) Above 50 kW | 153 | Rs./kVA/Month | 323.00 | 5.40 | 128.00 | 9.13 | 8,121.45 | 2.36 | 4.93 | 1.17 | 8.46 | (0.04) | 8.42 | 9.22 |
| LT X (A) Public Services-Government (Sub-Total) | 21,379 | | | | | 57.76 | 45,108 | 13.53 | 23.16 | 7.39 | 44.09 | (0.10) | 43.99 | 7.62 |
| LT X (B) Public Services-Others | 70,618 | Rs./kVA/Month | 351.00 | 6.18 | 128.00 | 441.19 | 289,265.86 | 62.84 | 272.44 | 56.47 | 391.75 | (1.24) | 390.51 | 8.85 |

| Category | No. of Consumers | Fixed/Demand Charge | | Variable Charges | | Energy Sales (MU) | Connected Load/ Contract Demand | Revenue (Rs. Crore) | | | | | | ABR (Rs./ kWh) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Unit | Rate | Energy Charge (Rs/ kWh) | Wheeling Charge$ (Paisa/ kWh) | | | Fixed / Demand Charge | Energy Charge | Wheeling Charge | Total Revenue | ToD Rebate | Net Revenue | |
| **LT X Public Services** | **91,997** | | | | | **498.95** | **334,373** | **76.37** | **295.60** | **63.87** | **435.84** | **(1.34)** | **434.50** | **8.71** |
| LT Prepaid | - | | - | - | | | - | | | | | | - | |
| **Sub-Total LT Category** | **26,436,518** | | | | | **68,146.96** | **57,573,251.68** | **8,242.41** | **24,958.67** | **8,539.71** | **41,740.79** | **(32.37)** | **41,708.42** | **6.12** |
| **Distribution Franchisees** | | | | | | | | | | | | | | |
| Bhiwandi | | | - | 3.88 | - | 3,975.12 | - | - | 1,542.05 | - | 1,542 | | 1,542 | 3.88 |
| Nagpur | | | - | 6.61 | - | 1,707.49 | - | - | 1,128.47 | - | 1,128 | | 1,128 | 6.61 |
| Stand By Charges | | | | | | | | | 396.00 | | 396 | | 396 | |
| LF/PF Incentives/EHV Rebate | | | | | | | | | -917.75 | | (918) | | (918) | |
| | | | | | | | | | | | - | | - | |
| **MSEDCL Total Revenue** | **26,457,941.00** | | | | | **109,122.23** | **71,901,220.28** | **12,668.47** | **52,518.74** | **9,616.83** | **74,804.04** | **(624.59)** | **74,179.45** | **6.80** |

$ Wheeling charges in Paisa/kWh for HT category weighted average of wheeling charges for (EHV, 33 kV, 22 kV & 11 kV) and not the actual rate
** ABR considering sales at input level for DFs

## ANNEXURE III – TARIFF SCHEDULE FOR FY 2018-19

## MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD.

## APPROVED TARIFF SCHEDULE
**(With effect from 1 September, 2018)**

Maharashtra Electricity Regulatory Commission, in exercise of the powers vested in it under Sections 61 and 62 of the Electricity Act, 2003 and all other powers enabling it in this behalf, has determined, by its Mid Term Review Order dated **1 September, 2018** in Case No. 195 of 2017, the tariff for supply of electricity by the Distribution Licensee, Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL) to various classes of consumers as applicable from **1 September, 2018**.

### General

1. These tariffs supersede all tariffs so far in force.

2. The Tariffs are subject to revision and/or surcharge that may be levied by the Distribution Licensee from time to time as per the directives of the Commission.

3. The tariffs are exclusive of the separate Electricity Duty, Tax on Sale of Electricity and other levies by the Government or other competent authorities, which will be payable by consumers over and above the tariffs.

4. The tariffs are applicable for supply at one point only.

5. The Distribution Licensee may measure the Maximum Demand for any period shorter than 30 minutes of maximum use, subject to conformity with the Commission's Electricity Supply Code Regulations, where it considers that there are considerable load fluctuations in operation.

6. The tariffs are subject to the provisions of the applicable Regulations and any directions that may be issued by the Commission from time to time.

7. Unless specifically stated to the contrary, the figures of Energy Charge and Wheeling Charge are denominated in Rupees per unit (kWh) for the energy consumed during the month.

8. Fuel Adjustment Charge (FAC) as may be approved by the Commission from time to time shall be applicable to all categories of consumers and be in addition to the base tariffs, on the basis of the FAC formula specified by the Commission and computed on a monthly basis.

# LOW TENSION (LT) TARIFF

## LT I (A): LT – Residential (BPL)

Applicability:

This Below Poverty Line (BPL) tariff category is applicable to Residential consumers who have a Sanctioned Load upto 0.25 kW and who have consumed upto 360 units per annum in the previous financial year. The eligibility of such consumers will be reassessed at the end of each financial year. If more than 360 units have been consumed in the previous financial year, the LTI (B) - Residential tariff shall thereafter be applicable, and such consumer cannot revert thereafter to the BPL category irrespective of his future consumption level.

The categorisation of BPL consumers will be reassessed at the end of the financial year on a pro rata basis if there has been consumption for only a part of the year. The categorisation of BPL consumers who have been added during the previous year would be assessed on a pro rata basis, i.e., 30 units per month.

This BPL category will also be applicable to all new consumers subsequently added in any month with a Sanctioned Load of upto 0.25 kW and consumption between 1 to 30 units (on pro rata basis of 1 unit/day) in the first billing month.

The BPL tariff is applicable only to individuals and not to institutions.

| Consumption Slab (kWh) | Fixed /Demand Charge (Rs per month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| BPL Category | 20.00 | - | 1.06 |

## LT I (B): LT – Residential

Applicability:

This tariff category is applicable for electricity used at Low/Medium Voltage for operating various appliances used for purposes such as lighting, heating, cooling, cooking, washing/cleaning, entertainment/leisure, water pumping in the following premises:

a. Private residential premises, Government/semi-Government residential quarters;

b. Premises used exclusively for worship, such as temples, gurudwaras, churches, mosques, etc.; provided that halls, gardens or any other part of such premises that may be let out for a consideration or used for commercial activities would be charged at the applicable LT-II tariff;

c. All Students Hostels affiliated to Educational Institutions;

d. All other Students' or Working Men/Women's Hostels;

e. Other types of Homes/Hostels, such as (i) Homes/Hostels for Destitutes, Disabled Persons (physically or mentally handicapped persons, etc.) and mentally ill persons (ii) Remand Homes (iii) Dharamshalas, (iv) Rescue Homes, (v) Orphanages - subject to verification and confirmation by the Distribution Licensee;

f. Government / Private / Co-operative Housing Colonies/complexes (where electricity is used exclusively for domestic purposes) only for common facilities such as Water Pumping / Street and other common area Lighting / Lifts /Parking Lots/ Fire-fighting Pumps and other equipment, etc.;

g. Sports Clubs or facilities / Health Clubs or facilities / Gymnasium / Swimming Pool / Community Hall of Government / Private / Co-operative Housing Colonies/complexes - provided that they are situated in the same premises, and are for the exclusive use of the members and employees of such Housing Colonies/complexes;

h. Telephone booths owned/operated by Persons with Disabilities/Handicapped persons;

i. Residential premises used by professionals like Lawyers, Doctors, Engineers, Chartered Accountants, etc., in furtherance of their professional activities, but not including Nursing Homes and Surgical Wards or Hospitals;

j. Single-phase household Flour Mills (Ghar-ghanti) used only for captive purposes;

**k.** A residential LT consumer with consumption upto 500 units per month (current month of supply) who undertakes construction or renovation activity in his existing premises: such consumer shall not require a separate temporary connection, and would be billed at this Residential tariff rate;

Note:

This tariff category shall also be applicable to consumers who are supplied power at High Voltage for any of the purposes (a) to (k) above.

l. Consumers undertaking business or commercial / industrial / non-residential activities from a part of their residence, whose monthly consumption is upto 300 units a month and annual consumption in the previous financial year was upto 3600 units. The applicability of this tariff to such consumers will be assessed at the end of each financial year. In case consumption has exceeded 3600 units in the previous financial year, the consumer will thereafter not be eligible for the tariff under this category but be charged at the tariff otherwise applicable for such consumption, with prior intimation to him.

m. Entities supplied electricity at a single point at Low/Medium Voltage for residential purposes, in accordance with the Electricity (Removal of Difficulties) Eighth Order, 2005, in the following cases:

(i) a Co-operative Group Housing Society which owns the premises, for making electricity available to the members of such Society residing in the same premises for residential purposes; and

(ii) a person, for making electricity available to its employees residing in the same premises for residential purposes.

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs. per month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs./kWh) |
|---|---|---|---|
| 0-100 units | Single Phase: Rs. 80 per month<br>Three Phase - Rs. 300 per month$$ | 1.30 | 3.00 |
| 101 – 300 units | | 1.30 | 6.73 |
| 301 – 500 units | | 1.30 | 9.75 |
| 501-1000 units | | 1.30 | 10.50 |
| Above 1000 units | | 1.30 | 11.50 |

Note:

a.) $$ An Additional Fixed Charge of Rs. 185 per 10 kW load or part thereof above 10 kW load shall also be payable.

b) Professionals like Lawyers, Doctors, Professional Engineers, Chartered Accountants, etc., occupying premises exclusively for conducting their profession, shall not be eligible for this tariff, and will be charged at the tariff applicable to the respective categories.

**LT II: LT – Non-Residential or Commercial**

**LT II (A): 0 - 20 kW**

Applicability:

This tariff category is applicable for electricity used at Low/Medium voltage in non-residential, non-industrial and/or commercial premises for commercial consumption meant for operating various appliances used for purposes such as lighting, heating, cooling, cooking, washing/cleaning, entertainment/ leisure and water pumping in, but not limited to, the following premises:

a) Non-Residential, Commercial and Business premises, including Shopping Malls and Showrooms;

b) Combined lighting and power supply for facilities relating to Entertainment, including film studios, cinemas and theatres (including multiplexes), Hospitality, Leisure, Meeting/Town Halls, and places of Recreation and Public Entertainment;

c) Offices, including Commercial Establishments;

d) Marriage Halls, Hotels / Restaurants, Ice-cream parlours, Coffee Shops, Guest Houses, Internet / Cyber Cafes, Telephone Booths not covered under the LT I category, and Fax / Photocopy shops;

e) Automobile and all other types of repairs, servicing and maintenance centres (unless specifically covered under another tariff category); Retail Gas Filling Stations, Petrol Pumps and Service Stations, including Garages;

f) Tailoring Shops, Computer Training Institutes, Typing Institutes, Photo Laboratories, Laundries, Beauty Parlours and Saloons;

g) Banks and ATM centres, Telephone Exchanges, TV Stations, Microwave Stations, Radio Stations, Telecommunications Towers;

h) Common facilities, like Water Pumping / Lifts / Fire-Fighting Pumps and other equipment / Street and other common area Lighting, etc., in Commercial Complexes;

i) Sports Clubs/facilities, Health Clubs/facilities, Gymnasiums, Swimming Pools not covered under any other category;

j) External illumination of monuments/ historical/ heritage buildings approved by Maharashtra Tourism Development Corporation (MTDC) or the concerned Local Authority;

k) Construction of all types of structures/ infrastructures such as buildings, bridges, fly-overs, dams, Power Stations, roads, Aerodromes, tunnels for laying of pipelines for all purposes, and which is not covered under the Temporary tariff category;

Note:

Residential LT consumers with consumption above 500 units per month (current month of supply) and who undertake construction or renovation activity in their existing premises shall not require a separate Temporary category connection, and shall be billed at the LT-II Commercial Tariff rate;

l) Milk Collection Centres;

m) Sewage Treatment Plants/ Common Effluent Treatment Plants for Commercial Complexes not covered under the LT – Public Water Works or LT – Industry categories;

n) Stand-alone Research and Development units not covered under any other category;

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs. per month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| **LT II (A) 0-20 kW** | | | |
| (i) 0 to 200 units per month | 350.00 | 1.30 | 6.00 |

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs. per month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| (ii) Above 200 units per month (only balance consumption) | 350.00 | 1.30 | 9.20 |

**LT II (B): > 20 kW and ≤ 50 kW and (C) > 50 kW**

Applicability:

As per the applicability described in LT II (A) and for the Sanctioned Load in the range applicable in this sub-category, i.e. LT II (B) and LT II (C).

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs/kVA/month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| **LT II (B) > 20 kW and ≤ 50 kW** | 350.00 | 1.30 | 9.30 |
| **LT II (C) > 50 kW** | | 1.30 | 11.60 |
| **TOD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

Note:

As per the applicability described in LT II (A) and for the Sanctioned Load in the range applicable in this sub-category, i.e. LT II (B) and LT II (C).

**LT III: LT-Public Water Works (PWW) and Sewage Treatment Plants**

Applicability:

This tariff category is applicable for electricity / power supply at Low / Medium Voltage for pumping of water, purification of water and allied activities relating to Public Water Supply Schemes, Sewage Treatment Plants and Waste Processing Units, provided they are owned or operated or managed by Local Self-Government Bodies (Gram Panchayats, Panchayat Samitis, Zilla Parishads, Municipal Councils and Corporations, etc.), or by Maharashtra Jeevan Pradhikaran (MJP), Maharashtra Industries Development Corporation (MIDC), Cantonment Boards and Housing Societies/complexes.

All other Public Water Supply Schemes and Sewage Treatment Plants (including allied activities) shall be billed under the LT II or LT V category tariff, as the case may be.

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs/ kVA/ month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| **LT III (A): 0 - 20 kW** | 90 | 1.30 | 2.15 |
| **LT III (B): > 20 kW and ≤ 40 kW** | 110 | 1.30 | 3.50 |
| **LT III (C): > 40 kW** | 140 | 1.30 | 4.80 |
| **TOD Tariffs (in addition to above base tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

## LT IV: Agriculture

### LT IV (A): LT - Agriculture Un-metered - Pumpsets

Applicability:

This tariff category is applicable for motive power supplied for Agriculture metered pumping loads, and for one lamp of wattage up to 40 Watt to be connected to the motive power circuit for use in pump-houses at Low/Medium Voltage.

**Rate Schedule**

| Consumer Category | Fixed / Demand Charge (Rs/ HP/ month) | Wheeling Charge (Rs/HP/Month) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| **LT IV (A): LT - Agriculture Un-metered Tariff - Pumpsets** | | | |
| Category 1 Zones* | | | |
| (a) 0-5 HP | 355.00 | 127.00 | - |
| (b) > 5 HP and ≤ 7.5 HP | 386.00 | 127.00 | - |
| (c) > 7.5 HP | 415.00 | 127.00 | - |
| Category 2 Zones # | | | |
| (a) 0-5 HP | 255.00 | 127.00 | - |
| (b) > 5 HP and ≤ 7.5 HP | 285.00 | 127.00 | - |
| (c) > 7.5 HP | 315.00 | 127.00 | - |

| | | |
|---|---|---|
| *Category 1 Zones (with consumption norm above 1,318 hours/HP/year) | | |
| 1) Bhandup (U) | 2) Pune | 3) Nashik |
| 4) Baramati | 5) Jalgaon | |
| # Category 2 Zones (with consumption norm below 1,318 hours/HP/year) | | |
| 1) Amaravati | 2) Aurangabad | 3) Kalyan |
| 4) Konkan | 5) Kolhapur | 6) Latur |

| | | |
|---|---|---|
| 7) Nagpur (U) | 8) Chandrapur | 9) Gondia |
| 10) Nanded | 11) Akola | |

Note:

i. The Flat Rate Tariff as above will remain in force only till meters are installed; once meter is installed, the consumer will be billed as per the Tariff applicable to metered agricultural consumers.

ii. The list of Category 1 Zones (with consumption norm above 1318 hours/ HP/year) and Category 2 Zones (with consumption norm below 1318 hours/HP/year) is given above.

iii. Supply under this Tariff will be given for a minimum load of 2 HP. If any consumer requires any load less than 2 HP for agricultural purposes, he shall be required to pay the Fixed Charge/Energy Charge on this basis as if a load of 2 HP is connected.

**LT IV (B): LT – Agriculture metered - Pumpsets**

Applicability:

This tariff category is applicable for motive power supplied for Agriculture metered pumping loads, and for one lamp of wattage up to 40 Watt to be connected to the motive power circuit for use in pump-houses at Low/Medium Voltage.

It is also applicable for power supply for cane crushers and/or fodder cutters for self-use for agricultural processing operations, but not for operating a flour mill, oil mill or expeller in the same premises, either operated by a separate motor or a change of belt drive.

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs/ HP/ month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| All Units | 35.00 | 1.30 | 1.93 |

**LT IV (C): LT – Agriculture – Others**

Applicability:

This tariff category is applicable for use of electricity / power supply at Low / Medium Voltage for:

a) Pre-cooling plants and cold storage units for Agricultural Products – processed or otherwise;

b) Poultries exclusively undertaking layer and broiler activities, including Hatcheries;

c) High-Technology Agriculture (i.e. Tissue Culture, Green House, Mushroom cultivation activities), provided the power supply is exclusively utilized for purposes directly concerned with the crop cultivation process, and not for any engineering or industrial process;

d) Floriculture, Horticulture, Nurseries, Plantations, Aquaculture, Sericulture, Cattle Breeding Farms, etc;

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs/ kW/ month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| All Units | 110.00 | 1.30 | 3.26 |

**LT V: LT- Industry:**

**LT-V (A): LT – Industry – Power looms**

Applicability:

This category shall be applicable for power supply to Powerlooms including other allied activities like, Warping, Doubling, Twisting, etc., connected at Low/Medium Tension only.

**Rate Schedule**

| Consumer Category | Fixed/Demand Charge | Wheeling Charge (Rs/kWh) | Energy Charge (Rs./kWh) |
|---|---|---|---|
| **LT-V(A): LT – Industry – Powerlooms** | | | |
| (i) 0-20 kW | Rs. 350 per connection per month | 1.30 | 4.65 |
| (ii) Above 20 kW | Rs. 280 per kVA per month | 1.30 | 5.85 |
| **ToD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

Note:

The ToD Tariff is applicable for LT-V (A) (ii) (i.e. above 20 kW), and optionally available to LT- V (A) (i) (i.e. up to 20 kW) having ToD meter installed.

## LT-V (B): LT - Industry - General

Applicability:

This tariff category is applicable for electricity for Industrial use, at Low/Medium Voltage, for purposes of manufacturing and processing, including electricity used within such premises for general lighting, heating/cooling, etc.

It is also applicable for use of electricity / power supply for Administrative Offices / Canteens, Recreation Hall / Sports Club or facilities / Health Club or facilities/ Gymnasium / Swimming Pool exclusively meant for employees of the industry; lifts, water pumps, fire-fighting pumps and equipment, street and common area lighting; Research and Development units, dhobi/laundry etc. -

Provided that all such facilities are situated within the same industrial premises and supplied power from the same point of supply;

This tariff category shall also be applicable for use of electricity / power supply by an Information Technology (IT) or IT-enabled Services (ITeS) Unit as defined in the applicable IT/ITeS Policy of Government of Maharashtra. Where such Unit does not hold the relevant permanent registration Certificate, the tariff shall be as per the LT II category, and the LT V(B) tariff shall apply to it after receipt of such permanent registration Certificate and till it is valid.

It shall also be applicable for use of electricity / power supply for (but not limited to) the following purposes:

a. Flour Mill, Dal Mill, Rice Mill, Poha Mill, Masala Mill, Saw Mill;

b. Ice Factory, Ice-cream manufacturing units, Milk Processing / Chilling Plants (Dairy);

c. Engineering Workshops, Engineering Goods Manufacturing units; Printing Presses; Transformer Repair Workshops; Tyre Remoulding/Rethreading units; and Vulcanizing units;

d. Mining, Quarrying and Stone Crushing units;

e. Garment Manufacturing units;

f. LPG/CNG bottling plants, etc.;

g. Sewage Treatment Plant/ Common Effluent Treatment Plant for industries, and not covered under the LT – Public Water Works category.

h. Start-up power for Generating Plants, i.e. the power required for trial run of a Power Plant during commissioning of the Unit and its Auxiliaries, and for its start-up after planned or forced outage (but not for construction);

i. Brick Kiln (Bhatti);

j. Biotechnology Industries covered under the Biotechnology Policy of Government of Maharashtra;

k. Cold Storages not covered under LT IV (C) – Agriculture (Others);

l. Food (including seafood) Processing units.

m. Seed manufacturing

n. Dedicated Water Supply Schemes to power plants

o. Auxiliary Power Supply to EHV/Distribution Substations (but not for construction)

**Rate Schedule**

| Consumer Category | Fixed/Demand Charge | Wheeling Charge (Rs/kWh) | Energy Charge (Rs./kWh) |
|---|---|---|---|
| **LT-V (B): LT – Industry – General** | | | |
| (i) 0-20 kW | Rs. 350 per connection per month | 1.30 | 4.76 |
| (ii) Above 20 kW | Rs. 280 per kVA per month | 1.30 | 5.63 |
| **ToD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

Note:

The ToD Tariff is applicable for LT-V (B) (ii) (i.e. above 20 kW), and optionally available to LT- V (B) (i) (i.e. up to 20 kW) having ToD meter installed.

## LT VI: LT – Street Light

Applicability:

This tariff category is applicable for the electricity used for lighting of public streets/ thoroughfares, which are open for use by the general public, at Low / Medium Voltage, and also at High Voltage.

Streetlights in residential complexes, commercial complexes, industrial premises, etc. will be billed at the tariff of the respective applicable categories.

This category is also applicable for use of electricity / power supply at Low / Medium Voltage or at High Voltage for (but not limited to) the following purposes, irrespective of who owns, operates or maintains these facilities:

a) Lighting in Public Gardens (i.e. which are open to the general public free of charge);

b) Traffic Signals and Traffic Islands;

c) Public Sanitary Conveniences;

d) Public Water Fountains; and

e) Such other public places open to the general public free of charge.

**Rate Schedule**

| Consumer Category | Fixed/Demand Charge (Rs per kW per month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| **LT VI: LT – Street Light** | | | |
| (A) Gram Panchayat, A, B & C Class Municipal Councils | 100.00 | 1.30 | 4.59 |
| (B) Municipal Corporation Areas | 100.00 | 1.30 | 5.68 |

Note:

The above street and other lighting facilities having ‘Automatic Timers’ for switching On/Off would be levied Demand Charges on the lower of the following–

i) 50 percent of ‘Contract Demand’ or

ii) Actual ‘Recorded Demand’.

## LT VII: LT-Temporary Supply

### LT VII (A): LT - Temporary Supply - Religious (TSR)

Applicability:

This tariff category is applicable for electricity supply at Low/Medium voltage for temporary purposes for public religious functions like Ganesh Utsav, Navaratri, Eid, Moharrum, Ram Lila, Diwali, Christmas, Guru Nanak Jayanti, etc., and for areas where community prayers are held; and for functions to commemorate anniversaries of personalities and National or State events for which Public Holidays have been declared, such as Gandhi Jayanti, Ambedkar Jayanti, Chhatrapati Shivaji Jayanti, Republic Day, Independence Day, etc.

This tariff will also be applicable to Circus Troupes

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs/connection/month) | Wheeling Charge (Rs/kWh) | Energy Charge ( Rs/kWh) |
|---|---|---|---|
| LT VII (A) – All Units | 400.00 | 1.30 | 3.79 |

**LT VII (B): LT - Temporary Supply - Others (TSO)**

Applicability:

This tariff category is applicable for electricity used at Low/Medium voltage for Temporary use for a period not exceeding one year, other than for the religious or commemorative purposes covered under LT VII (A), for

a. Construction of all types of structures/ infrastructures such as buildings, bridges, fly-overs, dams, Power Stations, roads, Aerodromes, tunnels for laying of pipelines; Any construction or renovation activity in existing premises;Decorative lighting for exhibitions, circuses, film shootings, marriages, etc.,

b. Any other activity not covered under LT VII (A).

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs/connection/month) | Wheeling Charge (Rs/kWh) | Energy Charge ( Rs/kWh) |
|---|---|---|---|
| LT VII (B) – All Units | 460.00 | 1.30 | 12.33 |

Note:

i. Additional Fixed Charges of Rs. 185 per 10 kW load or part thereof above 10 kW load shall be payable.

ii. Electricity used at Low / Medium Voltage for operating Fire-Fighting pumps and equipment in residential or other premises shall be charged as per the tariff category applicable to such premises.

## LT VIII: LT - Advertisements and Hoardings

Applicability:

This tariff category is applicable for use of electricity at Low/ Medium Voltage for advertisements, hoardings (including hoardings fixed on lamp posts/installed along roadsides), and other commercial illumination such as external flood-lights, displays, neon signs at departmental stores, malls, multiplexes, theatres, clubs, hotels and other such establishments;

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs/connection/month) | Wheeling Charge (Rs/kWh) | Energy Charge ( Rs/kWh) |
|---|---|---|---|
| All Units | 800.00 | 1.30 | 11.58 |

Note:

i. Consumers availing power supply at High Voltage for any of the above purposes shall be billed as per the tariff of this LT category.

ii. This category is not applicable to use of electricity specifically covered under the LT-II category; or to electricity used for the external illumination of monuments and historical/heritage buildings approved by MTDC or the concerned Local Authority, which shall be covered under the LT-II category depending upon the Sanctioned Load.

iii. The electricity used for indicating/ displaying the name and other details of the premises shall be covered under the category of such premises, and not under this tariff category.

## LT IX: LT- Crematorium and Burial Grounds

Applicability:

This tariff category is applicable for electricity used at Low/Medium Voltage in Crematoriums and Burial Grounds for all purposes, including lighting.

However, it will be applicable only to the portion of the premises catering to such activities. In case a part of the area is being used for other purposes, a separate meter will have to be provided for such purposes and the consumption charged at the applicable tariff.

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs/connection/month) | Wheeling Charge (Rs/kWh) | Energy Charge ( Rs/kWh) |
|---|---|---|---|
| All Units | 400.00 | 1.30 | 3.14 |

## LT X: LT - Public Services

### LT X (A): LT - Government Educational Institutions and Hospitals

Applicability:

This tariff category is applicable for electricity supply at Low/Medium Voltage for Educational Institutions, such as Schools and Colleges; Health Care facilities, such as Hospitals, Dispensaries, Clinics, Primary Health Care Centres, Diagnostic Centres, Blood Bank and Pathology Laboratories; Libraries and public reading rooms - of the State or Central Government or Local Self-Government bodies such as Municipalities, Zilla Parishads, Panchayat Samitis, Gram Panchayats, etc;

It shall also be applicable for electricity used for Sports Clubs and facilities / Health Clubs and facilities / Gymnasium / Swimming Pools attached to such Educational Institutions / Hospitals, provided that they are situated in the same premises and are meant primarily for their students / faculty/ employees/ patients.

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/ Demand Charge | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| **LT X (A): LT - Public Services –Government Educational Institutions and Hospitals** | | | |
| **(i) ≤ 20 kW** | | | |
| 0-200 units | Rs. 310 per connection per month | 1.30 | 2.90 |
| Above 200 units | Rs. 310 per connection per month | 1.30 | 4.10 |
| **(ii) >20 - ≤ 50 kW** | Rs. 310 per kVA per month | 1.30 | 4.20 |
| **(iii) > 50 kW** | Rs. 310 per kVA per month | 1.30 | 5.40 |
| **ToD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |

| Consumption Slab (kWh) | Fixed/ Demand Charge | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

Note:

The ToD Tariff is applicable for LT-X (A) (ii) and LT-X (A) (iii) (i.e. above 20 kW), and optionally available to LT- X (A) (i) (i.e. up to 20 kW) having ToD meter installed.

**LT X (B): LT - Public Services - Others**

Applicability:

This tariff category is applicable for electricity supply at Low/Medium Voltage for

a) Educational Institutions, such as Schools and Colleges; Health Care facilities, such as Hospitals, Dispensaries, Clinics, Primary Health Care Centres, Diagnostic Centres, Blood Banks, Laboratories; Libraries and public reading rooms - other than those of the State or Central Government or Local Self-Government bodies such as Municipalities, Zilla Parishads, Panchayat Samitis, Gram Panchayats, etc.

b) Sports Clubs and facilities / Health Clubs and facilities / Gymnasium / Swimming Pools attached to such Educational Institutions /Health Care facilities, provided that they are situated in the same premises and are meant primarily for their students / faculty/ employees/ patients;

c) all offices of Government and Municipal/ Local Authorities/ Local Self-Government bodies, such as Municipalities, Zilla Parishads, Panchayat Samitis, Gram Panchayats; Police Stations and Police Chowkies; Post Offices; Armed Forces/Defence and Para-Military establishments;

d) Service-oriented Spiritual Organisations;

e) State or Municipal/Local Authority Transport establishments, including their Workshops

f) Fire Service Stations; Jails, Prisons; Courts;

g) Airports;

h) Ports and Jetties;

i) Railway/Metro/Monorail Stations, including Shops, Workshops, Yards, etc, if the supply is at Low/ Medium Voltage.

j) Waste processing units not covered under LT IV category

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/ Demand Charge | Wheeling Charge (Rs/kWh) | Energy Charge (Rs./kWh) |
|---|---|---|---|
| **LT X (B): LT - Public Services – Others** | | | |
| **(i) ≤ 20 kW** | | | |
| 0-200 units | Rs. 350 per connection per month | 1.30 | 4.14 |
| Above 200 units | Rs. 350 per connection per month | 1.30 | 6.79 |
| **(ii) >20 - ≤ 50 kW** | Rs. 350 per kVA per month | 1.30 | 6.85 |
| **(iii) > 50 kW** | Rs. 350 per kVA per month | 1.30 | 7.21 |
| **ToD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

Note:

he ToD Tariff is applicable for LT-X (B) (ii) and LT-X (B) (iii) (i.e. above 20 kW), and optionally available to LT- X (B) (i) (i.e. up to 20 kW) having ToD meter installed.

**LT XI: LT – Electric Vehicle (EV) Charging Stations**

**Applicability:**

This Tariff category is applicable for Electric Vehicle Charging Station

In case the consumer uses the electricity supply for charging his own electric vehicle at his premises, the tariff applicable shall be as per the category of such premises.

Electricity consumption for other facilities at Charging Station such as restaurant, rest rooms, convenience stores, etc., shall be charged at tariff applicable to Commercial Category.

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs./kVA/Month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs./kWh) |
|---|---|---|---|
| All Units | 70 | 4.70 | 1.30 |
| **ToD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

# HIGH TENSION (HT) TARIFF

## HT I: HT – Industry

### HT I (A): Industry – General

Applicability:

This tariff category is applicable for electricity for Industrial use at High Voltage for purposes of manufacturing and processing, including electricity used within such premises for general lighting, heating/cooling, etc.

It is also applicable for use of electricity / power supply for Administrative Offices / Canteen, Recreation Hall / Sports Club or facilities / Health Club or facilities/ Gymnasium / Swimming Pool exclusively meant for employees of the industry; lifts, water pumps, fire-fighting pumps and equipment, street and common area lighting; Research and Development units, etc. -

Provided that all such facilities are situated within the same industrial premises and supplied power from the same point of supply.

This tariff category shall be applicable for use of electricity / power supply by an Information Technology (IT) or IT-enabled Services (ITeS) Unit as defined in the applicable IT/ITes Policy of Government of Maharashtra. Where such Unit does not hold the relevant permanent registration Certificate, the tariff shall be as per the HT II category, and the HT I tariff shall apply to it after receipt of such permanent registration Certificate and till it is valid.

It shall also be applicable for use of electricity / power supply for (but not limited to) the following purposes:

a. Flour Mills, Dal Mills, Rice Mills, Poha Mills, Masala Mills, Saw Mills;

b. Ice Factories, Ice-cream manufacturing units, Milk Processing / Chilling Plants (Dairy);

c. Engineering Workshops, Engineering Goods manufacturing units; Printing Presses; Transformer Repair Workshops; Tyre Remoulding/Rethreading units, and Vulcanizing units;

d. Mining, Quarrying and Stone Crushing units;

e. Garment Manufacturing units

f. LPG/CNG bottling plants, etc.;

g. Sewage Treatment Plant/ Common Effluent Treatment Plant for industries, and not covered under the HT – PWW category

h. Start-up power for Generating Plants, i.e., the power required for trial run of a Power Plant during commissioning of the Unit and its Auxiliaries, and for its start-up after planned or forced outage (but not for construction);

i. Brick Kiln (Bhatti);

j. Biotechnology Industries covered under the Biotechnology Policy of Government of Maharashtra;

k. Cold Storages not covered under HT V (B)– Agriculture (Others);

l. Food (including Seafood) Processing units.

m. Seed manufacturing.

n. Dedicated Water Supply Schemes to Power Plants

o. Auxiliary Power Supply to EHV/Distribution Substations(but not for construction)

## HT I (B): Industry - Seasonal

Applicability:

Applicable to Seasonal consumers, who are defined as those who normally work during a part of the year up to a maximum of 9 months, such as Cotton Ginning Factories, Cotton Seed Oil Mills, Cotton Pressing Factories, Salt Manufacturers, Khandsari/Jaggery Manufacturing Units, excluding Sugar Factories or such other consumers who opt for a seasonal pattern of consumption, such that the electricity requirement is seasonal in nature.

Provided that the period of operation of in a financial year should

**Rate Schedule**

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.38 |
| 11 kV | 0.78 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumer Category | Demand Charge (Rs/ kVA/ month) | Energy Charge (Rs/kWh) |
|---|---|---|
| **HT I: HT – Industry** | | |
| HT I (A): Industry - General | 350.00 | 7.10 |
| HT I (B): Industry - Seasonal | 350.00 | 7.40 |
| **ToD Tariffs (in addition to above base Tariffs)** | | |
| 2200 Hrs-0600 Hrs | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | 0.00 |
| 0900 Hrs-1200 Hrs | | 0.80 |
| 1800 Hrs-2200 Hrs | | 1.10 |

Note:

i. High Tension Industrial consumers having captive generation facility synchronised with the grid will pay additional Demand Charges of Rs. 20/kVA/Month only on the extent of Stand-by Contract Demand component and not on the entire Contract Demand.

ii. Stand-by Charges will be levied on such consumers on the Stand-by component, only if the consumer's demand exceeds the Contract Demand.

iii. This additional Demand Charge will not be applicable if there is no Stand-by demand and the Captive Unit is synchronised with the Grid only for the export of power.

iv. Demand Charge shall be applicable at 25% of the above rates on the start-up demand contracted by the Power Plant (as referred to at (h) above) with the Distribution Licensee.

v. Demand Charge shall be applicable at 75% of the above rates for Steel Plant operating with electric arc furnaces.

**HT II: HT- Commercial**

Applicability:

This tariff category is applicable for electricity used at High Voltage in non-residential, non-industrial and/or commercial premises for commercial consumption meant for operating various appliances used for purposes such as lighting, heating, cooling, cooking, washing/cleaning, entertainment/ leisure and water pumping in, but not limited to, the following premises:

a) Non-Residential, Commercial and Business premises, including Shopping Malls and Showrooms;

b) Combined lighting and power services for facilities relating to Entertainment, including film studios, cinemas and theatres (including multiplexes), Hospitality, Leisure, Meeting/Town Halls, and places of Recreation and Public Entertainment;

c) Offices, including Commercial Establishments;

d) Marriage Halls, Hotels / Restaurants, Ice-cream parlours, Coffee Shops, Guest Houses, Internet / Cyber Cafes, Telephone Booths and Fax / Photocopy shops;

a) Automobile and all other types of repairs, servicing and maintenance centres (unless specifically covered under another tariff category); Retail Gas Filling Stations, Petrol Pumps & Service Stations, including Garages;

e) Tailoring Shops, Computer Training Institutes, Typing Institutes, Photo Laboratories, Laundries, Beauty Parlours and Saloons;

f) Banks and ATM centres, Telephone Exchanges, TV Stations, Micro Wave Stations, Radio Stations, Telecommunications Tower;

g) Common facilities, like Water Pumping / Lifts / Fire-Fighting Pumps and other equipment / Street and other common area Lighting, etc., in Commercial Complexes;

h) Sports Clubs/facilities, Health Clubs/facilities, Gymnasiums, Swimming Pools not covered under any other category;

i) External illumination of monuments/ historical/heritage buildings approved by Maharashtra Tourism Development Corporation (MTDC) or the concerned Local Authority;

j) Construction of all types of structures/ infrastructures such as buildings, bridges, fly-overs, dams, Power Stations, roads, Aerodromes, tunnels for laying of pipelines for all purposes, and which is not covered under the HT - Temporary category;

Note:

Residential LT consumers with consumption above 500 units per month (current month of supply) and who undertake construction or renovation activity in their existing premises shall not require a separate Temporary category connection but be billed at the LT-II Commercial tariff;

k) Milk Collection Centres;

l) Sewage Treatment Plant/ Common Effluent Treatment Plant for Commercial Complexes not covered under the HT- PWW category or HT I – Industry.

m) Stand-alone Research and Development units not covered under any other category;

**Rate Schedule**

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.38 |
| 11 kV | 0.78 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumer Category | Demand Charge (Rs/ kVA/ month) | Energy Charge (Rs/kWh) |
|---|---|---|
| All Units | 350.00 | 11.50 |
| **TOD Tariffs (in addition to above base tariffs)** | | |
| 2200 Hrs-0600 Hrs | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | 0.00 |
| 0900 Hrs-1200 Hrs | | 0.80 |
| 1800 Hrs-2200 Hrs | | 1.10 |

Note:

A consumer in the HT II category requiring single-point supply for the purpose of downstream consumption by separately identifiable entities shall have to operate as a Franchisee authorised as such by the Distribution Licensee; or such downstream entities shall be required to take separate individual connections and be charged under the tariff category applicable to them.

**HT III - Railways/Metro/Monorail**

Applicability:

This tariff category is applicable to power supply at High Voltage for Railways, Metro and Monorail, including Stations and Shops, Workshops, Yards, etc.

**Rate Schedule**

**Wheeling Charge**

| Supply Voltage Level | (Rs/kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.38 |
| 11 kV | 0.78 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Demand Charge (Rs/ kVA/ month) | Energy Charge (Rs/kWh) |
|---|---|---|
| All Units | 350.00 | 7.00 |

**HT IV: HT - Public Water Works (PWW) and Sewage Treatment Plants**

Applicability:

This tariff category is applicable for electricity / power supply at High Voltage for pumping of water, purification of water and allied activities relating to Public Water Supply Schemes, Sewage Treatment Plants and waste processing units, provided they are owned or operated or managed by Local Self-Government Bodies (Gram Panchayats, Panchayat Samitis, Zilla Parishads, Municipal Councils and Corporations, etc.), or by Maharashtra Jeevan Pradhikaran (MJP), Maharashtra Industries Development Corporation (MIDC), Cantonment Boards and Housing Societies/complexes.

All other Public Water Supply Schemes and Sewage Treatment Plants (including allied activities) shall not be eligible under this tariff category, but be billed at the tariff applicable to the HT I or HT II categories, as the case may be.

**Rate Schedule**

**Wheeling Charge**

| Supply Voltage Level | (Rs/kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.38 |
| 11 kV | 0.78 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Demand Charge (Rs/ kVA/ month) | Energy Charge (Rs/kWh) |
|---|---|---|
| All Units | 350.00 | 6.30 |
| **TOD Tariffs (in addition to above base tariffs)** | | |
| 2200 Hrs-0600 Hrs | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | 0.00 |
| 0900 Hrs-1200 Hrs | | 0.80 |
| 1800 Hrs-2200 Hrs | | 1.10 |

## HT V: HT – Agriculture

## HT V(A) : HT – Agriculture Pumpsets

Applicability:

This category shall be applicable for Electricity / Power Supply at High Tension for pumping of water exclusively for the purpose of Agriculture / cultivation of crops including HT Lift Irrigation Schemes (LIS) irrespective of ownership.

It is also applicable for power supply for cane crushers and/or fodder cutters for self-use for agricultural processing operations, but not for operating a flour mill, oil mill or expeller in the same premises, either operated by a separate motor or a change of belt drive.

## HT V (B) : HT – Agriculture Others

Applicability:

This tariff category is applicable for use of electricity / power supply at High Voltage for:

a. Pre-cooling plants and cold storage units for Agricultural Products – processed or otherwise;Poultries exclusively undertaking layer and broiler activities, including Hatcheries;

b. High-Technology Agriculture (i.e. Tissue Culture, Green House, Mushroom cultivation activities), provided the power supply is exclusively utilized for purposes directly concerned with the crop cultivation process, and not for any engineering or industrial process;

c. Floriculture, Horticulture, Nurseries, Plantations, Aquaculture, Sericulture, Cattle Breeding Farms, etc;

### Rate Schedule

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.38 |
| 11 kV | 0.78 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumer Category | Demand Charge (Rs./ kVA/ month) | Energy Charge (Rs./kWh) |
|---|---|---|
| **HT V : HT Agriculture** | | |
| HT V (A) : HT Agriculture Pumpsets | 60.00 | 3.68 |
| HT V (B) : HT Agriculture Others | 60.00 | 5.08 |

## HT VI: HT - Group Housing Society (Residential)

Applicability:

Entities supplied electricity at a single point at High Voltage for residential purposes in accordance with the Electricity (Removal of Difficulties) Eighth Order, 2005, in the following cases:

a. a Co-operative Group Housing Society which owns the premises, for making electricity available to the members of such Society residing in the same premises for residential purposes; and

b. a person, for making electricity available to its employees residing in the same premises for residential purposes.

**Rate Schedule**

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.38 |
| 11 kV | 0.78 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Demand Charge (Rs./ kVA/ month) | Energy Charge (Rs./kWh) |
|---|---|---|
| All Units | 300.00 | 5.73 |

## HT VIII- HT - Temporary Supply

## HT VIII (A) - HT - Temporary Supply Religious (TSR)

Applicability:

This tariff category is applicable for electricity supply at High Voltage, for temporary use for a period not exceeding one year, for public religious functions like Ganesh Utsav, Navaratri, Eid, Moharrum, Ram Lila, Diwali, Christmas, Guru Nanak Jayanti, etc. or for areas where community prayers are held; and for functions to commemorate anniversaries of personalities and National or State events for which Public Holidays have been declared, such as Gandhi Jayanti, Ambedkar Jayanti, Chhatrapati Shivaji Jayanti, Republic Day, Independence Day, etc.

## Rate Schedule

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.38 |
| 11 kV | 0.78 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs./ connection/ month) | Energy Charge (Rs./kWh) |
|---|---|---|
| All Units | 400.00 | 3.60 |

### HT VIII (B): HT - Temporary Supply Others (TSO)

Applicability:

This tariff category is also applicable for electricity supplied at High Voltage for Temporary use for a period not exceeding one year for

a. Construction of all types of structures/ infrastructures such as buildings, bridges, fly-overs, dams, Power Stations, roads, Aerodromes, tunnels for laying of pipelines for all purposes;

b. Any construction or renovation activity in existing premises;

c. Decorative lighting for exhibitions, circuses, film shootings, marriages, etc.,

## Rate Schedule

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.38 |
| 11 kV | 0.78 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs./ kVA/ month) | Energy Charge (Rs./kWh) |
|---|---|---|
| All Units | 375.00 | 11.75 |

Note:

Additional Fixed Charges of Rs.230 per 10 kW load or part thereof above 10 kW load shall be payable.

## HT IX: HT Public Services

## HT IX – (A): HT - Government Educational Institutions and Hospitals

Applicability:

This tariff category is applicable for electricity supply at High Voltage for Educational Institutions, such as Schools and Colleges; Health Care facilities, such as Hospitals, Dispensaries, Clinics, Primary Health Care Centres, Diagnostic Centres, Blood Banks and Pathology Laboratories; Libraries and public reading rooms - of the State or Central Government, Local Self-Government bodies such as Municipalities, Zilla Parishads, Panchayat Samitis, Gram Panchayats, etc;

It shall also be applicable for electricity used for Sports Clubs and facilities / Health Clubs and facilities / Gymnasium / Swimming Pools attached to such Educational Institutions / Health Care facilities, provided that they are situated in the same premises and are meant primarily for the students / faculty/ employees/ patients of such Educational Institutions and Hospitals.

## Rate Schedule

### Wheeling Charge

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.38 |
| 11 kV | 0.78 |

**PLUS**

### Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)

| Consumption Slab (kWh) | Demand Charge (Rs/ kVA/ month) | Energy Charge (Rs/kWh) |
|---|---|---|
| All Units | 350.00 | 7.70 |
| **TOD Tariffs (in addition to above base tariffs)** | | |
| 2200 Hrs-0600 Hrs | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | 0.00 |
| 0900 Hrs-1200 Hrs | | 0.80 |
| 1800 Hrs-2200 Hrs | | 1.10 |

## HT IX - (B): Public Service - Others

Applicability:

This tariff category is applicable for electricity supply at High Voltage for

a) Educational Institutions, such as Schools and Colleges; Health Care facilities, such as Hospitals, Dispensaries, Clinics, Primary Health Care Centres, Diagnostic Centres, Blood Banks and Pathology Laboratories; Libraries and public reading rooms - other than those of the State or Central Government, Local Self-Government bodies such as Municipalities, Zilla Parishads, Panchayat Samities, Gram Panchayats, etc.

- Sports Clubs and facilities / Health Clubs and facilities / Gymnasium / Swimming Pools attached to such Educational Institutions / Health Care facilities, provided that they are situated in the same premises and are meant primarily for their students / faculty/ employees/ patients;

b) all offices of Government and Municipal/ Local Authorities/ Local Self-Government bodies, such as Municipalities, Zilla Parishads, Panchayat Samitis, Gram Panchayats; Police Stations and Police Chowkies; Post Offices; Armed Forces/Defence and Para-Military establishments;

c) Service-oriented Spiritual Organisations;

d) State or Municipal/Local Authority Transport establishments, including their Workshops;

e) Fire Service Stations; Jails, Prisons; Courts.

f) Airports

g) Ports and Jetties

h) Waste processing units not covered under HT IV category

**Rate Schedule**

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.38 |
| 11 kV | 0.78 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Demand Charge (Rs./ kVA/ month) | Energy Charge (Rs./kWh) |
|---|---|---|
| All Units | 350.00 | 9.65 |
| **TOD Tariffs (in addition to above base tariffs)** | | |
| 2200 Hrs-0600 Hrs | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | 0.00 |
| 0900 Hrs-1200 Hrs | | 0.80 |
| 1800 Hrs-2200 Hrs | | 1.10 |

## HT X: HT – Electric Vehicle (EV) Charging Stations

### Applicability:

This Tariff category is applicable for Electric Vehicle Charging Station

In case the consumer uses the electricity supply for charging his own electric vehicle at his premises, the tariff applicable shall be as per the category of such premises.

Electricity consumption for other facilities at Charging Station such as restaurant, rest rooms, convenience stores, etc., shall be charged at tariff applicable to Commercial Category.

**Wheeling Charges and Energy Charges**

| Supply Voltage Level | Wheeling Charge (Rs./kWh) | Energy Charge (Rs./kWh) |
|---|---|---|
| 66 kV and above | - | - |
| 33 kV | 0.15 | 5.85 |
| 22 kV | 0.38 | 5.62 |
| 11 kV | 0.78 | 5.22 |

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs./kVA/Month) | | Energy Charge (Rs./kWh) |
|---|---|---|---|
| All Units | 70 | | |
| **ToD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

## MISCELLANEOUS AND GENERAL CHARGES

### Fuel Adjustment Charge (FAC) Component of Z-factor Charge

The Fuel Adjustment Charge (FAC) component of the Z-factor Charge will be determined in accordance with the formula specified in the relevant Multi Year Tariff Regulations and any directions that may be given by the Commission from time to time, and will be applicable to all consumer categories for their entire consumption.

In case of any variation in the fuel prices and power purchase prices, the Distribution Licensee shall pass on the adjustments through the FAC component of the Z-factor Charge accordingly.

The details of the applicable $Z_{FAC}$ for each month shall be available on the Distribution Licensee's website www.mahadiscom.in.

**Electricity Duty and Tax on Sale of Electricity**

Electricity Duty and Tax on Sale of Electricity shall be levied in addition to the tariffs approved by the Commission, and in accordance with the Government of Maharashtra stipulations from time to time. The rate and the reference number of the Government Resolution/ Order under which the Electricity Duty and Tax on Sale of Electricity are applied shall be stated in the consumers' energy bills. A copy of such Resolution / Order shall be provided on the Distribution Licensee's website www.mahadiscom.in.

**Power Factor Computation**

Where the average Power Factor measurement is not possible through the installed meter, the following formula for calculating the average Power Factor during the billing period shall be applied:

$$\text{Average Power Factor} = \frac{Total(kWH)}{Total(kVAh)}$$

$$\text{Wherein the kVAh is} = \sqrt{\sum(kWh)^2 + \sum(RkVAh)^2}$$

(i.e., Square Root of the summation of the squares of kWh and RkVAh )

**Power Factor Incentive**

1. Applicable for HT-I :Industry, HT II - Commercial, HT-III: Railways, Metro & Monorail, HT-IV : PWW, HT-V: Agriculture, HT-VI: Group Housing Society, HT VIII - Temporary Supply, HT IX: Public Service, HT X: Electric Vehicle Charging Station, LT II: Non-Residential/Commercial [LT II(B), LT II (C)], LT III: Public Water Works , LT V (A) (ii): Industry – Powerlooms (above 20 kW) , LT V (B) (ii): Industry – General (above 20 kW), LT X : Public Services [LT X (A) (ii) , LT X (A) (iii) , LT X (B) (ii) and LT X (B) (iii) categories], LT XI: Electric Vehicle Charging Station

2. Whenever the average Power Factor is more than 0.95 lag and upto 1, an incentive shall be given at the rate of the following percentages of the amount of the monthly electricity bill, excluding Taxes and Duties:

| Sl. | Range of Power Factor | Power Factor Level | Incentive |
|---|---|---|---|
| 1 | 0.951 to 0.954 | 0.95 | 0% |
| 2 | 0.955 to 0.964 | 0.96 | 0.5% |
| 3 | 0.965 to 0.974 | 0.97 | 1.0% |
| 4 | 0.975 to 0.984 | 0.98 | 1.5% |
| 5 | 0.985 to 0.994 | 0.99 | 2.5% |
| 6 | 0.995 to 1.000 | 1.00 | 3.5% |

Note:

Power Factor shall be measured/computed upto 3 decimals, after universal rounding off.

**Power Factor Penalty**

1. Applicable for HT-I :Industry, HT II - Commercial, HT-III: Railways, Metro & Monorail, HT-IV : PWW, HT-V: Agriculture, HT-VI: Group Housing Society, HT VIII - Temporary Supply, HT IX: Public Service, HT X : Electric Vehicle Charging Station , LT II: Non-Residential/Commercial [LT II (B), LT II (C)], LT III: Public Water Works , LT V (A) (ii): Industry – Powerlooms (above 20 kW) , LT V (B) (ii): Industry – General (above 20 kW), LT X : Public Services [LT X (A) (ii) , LT X (A) (iii) , LT X (B) (ii) and LT X (B) (iii) categories], LT XI: Electric Vehicle Charging Station.

2. Whenever the average PF is less than 0.9 (lag or lead), penal charges shall be levied at the rate of the following percentages of the amount of the monthly electricity bill, excluding Taxes and Duties:

| Sl. | Range of Power Factor | Power Factor Level | Penalty |
|---|---|---|---|
| 1 | 0.895 to 0.900 | 0.90 | 0% |
| 2 | 0.885 to 0.894 | 0.89 | 1.0% |
| 3 | 0.875 to 0.884 | 0.88 | 1.5% |
| 4 | 0.865 to 0.874 | 0.87 | 2.0% |
| 5 | 0.855 to 0.864 | 0.86 | 2.5% |
| 6 | 0.845 to 0.854 | 0.85 | 3.0% |
| 7 | 0.835 to 0.844 | 0.84 | 3.5% |
| 8 | 0.825 to 0.834 | 0.83 | 4.0% |
| 9 | 0.815 to 0.824 | 0.82 | 4.5% |
| 10 | 0.805 to 0.814 | 0.81 | 5.0% |
| ... | ... | ... | ... |

Note:

Power Factor shall be measured/computed upto 3 decimals, after universal rounding off.

**Prompt Payment Discount**

A prompt payment discount of one percent of the monthly bill (excluding Taxes and Duties) shall be provided to consumers for payment of electricity bills within 7 days from the date of their issue.

**Discount for digital payment**

A discount of 0.25% of the monthly bill (excluding taxes and duties), subject to a cap of Rs. 500/-, shall be provided to LT category consumers for payment of electricity bills through various modes of digital payment such as credit cards, debit cards, UPI, BHIM, internet banking, mobile banking, mobile wallets etc.

**Delayed Payment Charges**

In case the electricity bill is not paid within the due date mentioned on the bill, delayed payment charges of 1.25 percent shall be levied on the total amount of the electricity bill (including Taxes and Duties).

**Rate of Interest on Arrears**

The rate of interest chargeable on the arrears of payment of billed dues shall be as given below:

| Sr. No. | Delay in Payment (months) | Interest Rate per annum (%) |
|---|---|---|
| 1 | Payment made after 60 days and before 90 days from the date of billing | 12% |
| 2 | Payment made after 90 days and up to 180 days from the date of billing | 15% |
| 3 | Payment made after 180 days from the date of billing | 18% |

**Load Factor Incentive**

1. Consumers having Load Factor above 75% and upto 85% will be entitled to an incentive in the form of a rebate of 0.75% on the Energy Charges for every percentage point increase in Load Factor from 75% to 85%. Consumers having a Load Factor above 85 % will be entitled to a rebate of 1% on the Energy Charges for every percentage point increase in Load Factor from 85%. The total rebate will be subject to a ceiling of 15% of the Energy Charges applicable to the consumer.

2. This incentive is applicable only to consumers in the tariff categories HT I: Industry, HT II: Commercial and HT IX: Public Services.

3. The Load Factor incentive will be available only if the consumer has no arrears with the Distribution Licensee, and payment is made within seven days from the date of the electricity bill. However, it will be available to consumers in whose case payment of

arrears in instalments has been allowed by the Distribution Licensee, and such payment is being made as scheduled. The Distribution Licensee shall take a commercial decision on the schedule for such payments.

4. The Load Factor is to be computed as follows:

$$\text{Load Factor} = \frac{\text{Consumption during the month in MU}}{\text{Maximum Consumption Possible during the month in MU}}$$

Maximum consumption possible = Contract Demand (kVA) x Actual Power Factor x (Total no. of hours during the month, less planned load shedding hours*)
* - Interruption/non-supply to the extent of 60 hours in a 30-day month.

In case the consumer exceed its Contract Demand (including during the non-peak hours, i.e., 22:00 hrs to 06:00 hrs.) in any particular month, the Load Factor Incentive will not be payable to the consumer in that month

**Penalty for exceeding Contract Demand**

In case a consumer (availing Demand-based Tariff) exceeds his Contract Demand, he will be billed at the applicable Demand Charge rate for the Demand actually recorded, and also be charged an additional amount at the rate of 150% of the applicable Demand Charge (only for the Demand in excess of the Contract Demand).

Under these circumstances, the consumer shall not be liable for any other action under Section 126 of the EA, 2003, since the penal additional Demand Charge provides for the penalty that the consumer is liable to pay for exceeding his Contract Demand. In case a consumer exceeds his Contract Demand on more than three occasions in a calendar year, the action to be taken would be governed by the provisions of the Supply Code Regulations.

**Additional Demand Charges for Consumers having Captive Power Plant**

For consumers having a Captive Power Plant, additional Demand Charges at the rate of Rs. 20/kVA/month shall be payable only on the extent of the Stand-by demand component and not on the entire Contract Demand. The additional Demand Charges will be levied on the Stand-by component only if the consumer’s demand exceeds his Contract Demand.

**Consumers’ Security Deposit**

1) Subject to the provisions of Section 47(5) of the Electricity Act, 2003, the Distribution Licensee shall require any person to whom supply of electricity has been sanctioned to deposit an amount as security in accordance with the provisions of Section 47(1) (a).

2) The amount of the Security Deposit shall be equal to the average of three months' of billing or the billing cycle period, whichever is lesser. For determining the average billing, the average of the billing to the consumer for the last twelve months or, where supply has been provided for a shorter period, the average of the billing of such shorter period, shall be considered

3) Where the Distribution Licensee requires security from a consumer at the time of commencement of service, the amount of such security shall be estimated based on the tariff category and Contract Demand/Sanctioned Load, Load Factor, diversity factor and number of working shifts of the consumer.

4) MSEDCL shall re-calculate the amount of Security Deposit payable, based on the actual billing of the consumer, once in each financial year.

5) Where the amount of Security Deposit maintained by the consumer is higher than the security required to be maintained under the Supply Code Regulations, the Distribution Licensee shall refund the excess amount to the consumer in a single instalment.

6) Such refund shall be made upon a request of the person who gave the security, and with intimation to the consumer if different from such person; and shall be made, at the option of such person, by way of adjustment in the next bill or by way of a separate cheque payment within 30 days from the receipt of such request;

7) No refund shall be required to be made where the amount of refund does not exceed 10% of the amount of the Security Deposit required to be maintained by the consumer or Rs 300/-, whichever is higher.

8) Where the amount of security re-assessed as above is higher than the Security Deposit of the consumer, the Distribution Licensee shall be entitled to raise a demand for additional security deposit. The consumer shall be given not less than 30 days to deposit the additional security pursuant to such demand.

9) Upon termination of supply, the Distribution Licensee shall, after recovery of all amounts due, refund the remaining amount of security to the person who deposited it, with intimation to the consumer if different from such person.

10) A consumer - (i) with a consumption of electricity of not less than one lakh kilo-Watt hours per month; and (ii) with no undisputed sums payable to the Distribution Licensee under Section 56 of the Electricity Act, 2003 may, at the option of such consumer, deposit security by way of cash, irrevocable letter of credit or unconditional Bank Guarantee issued by a scheduled commercial Bank.

11) The Distribution Licensee shall pay interest on the amount of Security Deposit in cash (including by cheque or demand draft) at the Base Rate of State Bank of India as on 1st April of the financial year for which the interest is payable, plus 150 basis points, provided that the amount of such cash Deposit maintained by the consumer is at least Rs. 50/-.

12) Interest on the Security Deposit made in cash shall be payable from the date of its deposit by the consumer till the date of dispatch of the refund by the Distribution Licensee.

**<u>Definitions</u>**

**Maximum Demand**
Maximum Demand in kilo-Watts or kilo-Volt Amperes, in relation to any period shall, unless otherwise provided in any general or specific Order of the Commission, mean twice the highest number of kilo-watt-hours or kilo-Volt Ampere hours supplied and taken during any consecutive thirty minute blocks in that period.

**Contract Demand**
Contract Demand means the demand in kilo-Watt (kW) or kilo–Volt Amperes (kVA), mutually agreed between the Distribution Licensee and the consumer as entered into in the agreement or agreed through other written communication. (For conversion of kW into kVA, the Power Factor of 0.80 shall be applied.)

**Sanctioned Load**
Sanctioned Load means the load in kW mutually agreed between the Distribution Licensee and the consumer.
In case the meter is installed on the LV/MV side, the methodology to be followed for billing purpose is as follows

- 2% to be added to MV demand reading, to determine the kW or kVA billing demand, and
- ‘X’ units to the MVA reading to determine the total energy compensation to compensate the transformation losses, where is calculated as follows
  ‘X’ = (730 * kVA rating of transformer)/500 Units/month, to compensate for the iron losses, plus one percent of units registered on the LT side for copper losses.

**Billing Demand - LT tariff categories**

Billing Demand for LT Non-Residential / Commercial [LT: II (B) , LT II (C)] , LT III: Public Water Works , LT V (A) (ii): Industry - Power Looms (above 20 kW) , LT V (B) (ii): Industry - General (above 20 kW), LT X (A) Public Services - Government Owned Educational Institutes and Hospitals [LT X (A) (ii) and LT X (A) (iii)] , LT X (B) Public Services - Others [LT X (B) (ii) and LT X (B) (iii)], LT XI category having MD based Tariff:-

Monthly Billing Demand will be the higher of the following:

a) 65% of the actual Maximum Demand recorded in the month during 0600 hours to 2200 hours;
b) 40% of the Contract Demand.

*<u>Note:</u>*

- Only the Demand registered during the period 0600 to 2200 Hrs. will be considered for determination of the Billing Demand.
- In case of a change in Contract Demand, the above period will be reckoned from the month following the month in which the change in Contract Demand is effected.

**Billing Demand - HT tariff categories**

Billing Demand for HT I: Industry, HT II: Commercial, HT III Railway/Metro/Monorail, HT IV: Public Water Works, HT V: Agriculture, HT VI: Group Housing Society (Residential), HT VIII: Temporary Supply, HT IX: Public Services, HT X: Electric Vehicle Charging Station

Monthly Billing Demand will be the higher of the following:

a) Actual Maximum Demand recorded in the month during 0600 hours to 2200 hours;

b) 75% of the highest Billing Demand recorded during the preceding eleven months, subject to the limit of Contract Demand;

c) 50% of the Contract Demand.

Note:

- Only the Demand registered during the period 0600 to 2200 Hrs. will be considered for determination of the Billing Demand.
- In case of a change in Contract Demand, the above period will be reckoned from the month following the month in which the change of Contract Demand is effected.

HT Seasonal Category (HT I)

During Declared Season, Monthly Billing Demand will be the higher of the following:

i. Actual Maximum Demand recorded in the month during 0600 hours to 2200 hours

ii. 75% of the Contract Demand

iii. 50 kVA.

During Declared Off-season, Monthly Billing Demand will be the following:

i. Actual Maximum Demand recorded in the month during 0600 hours to 2200 hours

The Billing Demand for the consumers with CPP will be governed as per the CPP Order in Case No. 55 and 56 of 2003.

## ANNEXURE II – TARIFF SCHEDULE FOR FY 2019-20

## MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD.

## APPROVED TARIFF SCHEDULE
## (With effect from 1 April, 2019)

Maharashtra Electricity Regulatory Commission, in exercise of the powers vested in it under Sections 61 and 62 of the Electricity Act, 2003 and all other powers enabling it in this behalf, has determined, by its Mid Term Review Order dated **1 April, 2019** in Case No. 195 of 2017, the tariff for supply of electricity by the Distribution Licensee, Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL) to various classes of consumers as applicable from **1 April, 2019.**

### General

1. These tariffs supersede all tariffs so far in force.

2. The Tariffs are subject to revision and/or surcharge that may be levied by the Distribution Licensee from time to time as per the directives of the Commission.

3. The tariffs are exclusive of the separate Electricity Duty, Tax on Sale of Electricity and other levies by the Government or other competent authorities, which will be payable by consumers over and above the tariffs.

4. The tariffs are applicable for supply at one point only.

5. The Distribution Licensee may measure the Maximum Demand for any period shorter than 30 minutes of maximum use, subject to conformity with the Commission's Electricity Supply Code Regulations, where it considers that there are considerable load fluctuations in operation.

6. The tariffs are subject to the provisions of the applicable Regulations and any directions that may be issued by the Commission from time to time.

7. Unless specifically stated to the contrary, the figures of Energy Charge and Wheeling Charge are denominated in Rupees per unit (kWh) for the energy consumed during the month.

8. Fuel Adjustment Charge (FAC) as may be approved by the Commission from time to time shall be applicable to all categories of consumers and be in addition to the base tariffs, on the basis of the FAC formula specified by the Commission and computed on a monthly basis.

# LOW TENSION (LT) TARIFF

## LT I (A): LT – Residential (BPL)

Applicability:

This Below Poverty Line (BPL) tariff category is applicable to Residential consumers who have a Sanctioned Load upto 0.25 kW and who have consumed upto 360 units per annum in the previous financial year. The eligibility of such consumers will be reassessed at the end of each financial year. If more than 360 units have been consumed in the previous financial year, the LTI (B) - Residential tariff shall thereafter be applicable, and such consumer cannot revert thereafter to the BPL category irrespective of his future consumption level.

The categorisation of BPL consumers will be reassessed at the end of the financial year on a pro rata basis if there has been consumption for only a part of the year. The categorisation of BPL consumers who have been added during the previous year would be assessed on a pro rata basis, i.e., 30 units per month.

This BPL category will also be applicable to all new consumers subsequently added in any month with a Sanctioned Load of upto 0.25 kW and consumption between 1 to 30 units (on pro rata basis of 1 unit/day) in the first billing month.

The BPL tariff is applicable only to individuals and not to institutions.

| Consumption Slab (kWh) | Fixed /Demand Charge (Rs per month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| BPL Category | 25 | - | 1.10 |

## LT I (B): LT – Residential

Applicability:

This tariff category is applicable for electricity used at Low/Medium Voltage for operating various appliances used for purposes such as lighting, heating, cooling, cooking, washing/cleaning, entertainment/leisure, water pumping in the following premises:

a) Private residential premises, Government/semi-Government residential quarters;

b) Premises used exclusively for worship, such as temples, gurudwaras, churches, mosques, etc.; provided that halls, gardens or any other part of such premises that may be let out for a consideration or used for commercial activities would be charged at the applicable LT-II tariff;

c) All Students Hostels affiliated to Educational Institutions;

d) All other Students' or Working Men/Women's Hostels;

e) Other types of Homes/Hostels, such as (i) Homes/Hostels for Destitutes, Disabled Persons (physically or mentally handicapped persons, etc.) and mentally ill persons (ii) Remand Homes (iii) Dharamshalas, (iv) Rescue Homes, (v) Orphanages - subject to verification and confirmation by the Distribution Licensee;

f) Government / Private / Co-operative Housing Colonies/complexes (where electricity is used exclusively for domestic purposes) only for common facilities such as Water Pumping / Street and other common area Lighting / Lifts /Parking Lots/ Fire-fighting Pumps and other equipment, etc.;

g) Sports Clubs or facilities / Health Clubs or facilities / Gymnasium / Swimming Pool / Community Hall of Government / Private / Co-operative Housing Colonies/complexes - provided that they are situated in the same premises, and are for the exclusive use of the members and employees of such Housing Colonies/complexes;

h) Telephone booths owned/operated by Persons with Disabilities/Handicapped persons;

i) Residential premises used by professionals like Lawyers, Doctors, Engineers, Chartered Accountants, etc., in furtherance of their professional activities, but not including Nursing Homes and Surgical Wards or Hospitals;

j) Single-phase household Flour Mills (Ghar-ghanti) used only for captive purposes;

k) A residential LT consumer with consumption upto 500 units per month (current month of supply) who undertakes construction or renovation activity in his existing premises: such consumer shall not require a separate temporary connection, and would be billed at this Residential tariff rate;

Note:

This tariff category shall also be applicable to consumers who are supplied power at High Voltage for any of the purposes (a) to (k) above.

l) Consumers undertaking business or commercial / industrial / non-residential activities from a part of their residence, whose monthly consumption is upto 300 units a month and annual consumption in the previous financial year was upto 3600 units. The applicability of this tariff to such consumers will be assessed at the end of each financial year. In case consumption has exceeded 3600 units in the previous financial year, the consumer will thereafter not be eligible for the tariff under this category but be charged at the tariff otherwise applicable for such consumption, with prior intimation to him.

m) Entities supplied electricity at a single point at Low/Medium Voltage for residential purposes, in accordance with the Electricity (Removal of Difficulties) Eighth Order, 2005, in the following cases:

n) a Co-operative Group Housing Society which owns the premises, for making electricity available to the members of such Society residing in the same premises for residential purposes; and

o) a person, for making electricity available to its employees residing in the same premises for residential purposes.

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs. per month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs./kWh) |
|---|---|---|---|
| 0-100 units | Single Phase: Rs. 90 per month<br>Three Phase - Rs. 320 per month$$ | 1.28 | 3.05 |
| 101 – 300 units | | 1.28 | 6,95 |
| 301 – 500 units | | 1.28 | 9.90 |
| 501-1000 units | | 1.28 | 11.50 |
| Above 1000 units | | 1.28 | 12.50 |

Note:

a) $$ An Additional Fixed Charge of Rs. 185 per 10 kW load or part thereof above 10 kW load shall also be payable.

b) Professionals like Lawyers, Doctors, Professional Engineers, Chartered Accountants, etc., occupying premises exclusively for conducting their profession, shall not be eligible for this tariff, and will be charged at the tariff applicable to the respective categories.

## LT II: LT – Non-Residential or Commercial

### LT II (A): 0 - 20 kW

Applicability:

This tariff category is applicable for electricity used at Low/Medium voltage in non-residential, non-industrial and/or commercial premises for commercial consumption meant for operating various appliances used for purposes such as lighting, heating, cooling, cooking, washing/cleaning, entertainment/ leisure and water pumping in, but not limited to, the following premises:

a) Non-Residential, Commercial and Business premises, including Shopping Malls and Showrooms;

b) Combined lighting and power supply for facilities relating to Entertainment, including film studios, cinemas and theatres (including multiplexes), Hospitality, Leisure, Meeting/Town Halls, and places of Recreation and Public Entertainment;

c) Offices, including Commercial Establishments;

d) Marriage Halls, Hotels / Restaurants, Ice-cream parlours, Coffee Shops, Guest Houses, Internet / Cyber Cafes, Telephone Booths not covered under the LT I category, and Fax / Photocopy shops;

**e)** Automobile and all other types of repairs, servicing and maintenance centres (unless specifically covered under another tariff category); Retail Gas Filling Stations, Petrol Pumps and Service Stations, including Garages;

f) Tailoring Shops, Computer Training Institutes, Typing Institutes, Photo Laboratories, Laundries, Beauty Parlours and Saloons;

g) Banks and ATM centres, Telephone Exchanges, TV Stations, Microwave Stations, Radio Stations, Telecommunications Towers;

h) Common facilities, like Water Pumping / Lifts / Fire-Fighting Pumps and other equipment / Street and other common area Lighting, etc., in Commercial Complexes;

i) Sports Clubs/facilities, Health Clubs/facilities, Gymnasiums, Swimming Pools not covered under any other category;

j) External illumination of monuments/ historical/ heritage buildings approved by Maharashtra Tourism Development Corporation (MTDC) or the concerned Local Authority;

k) Construction of all types of structures/ infrastructures such as buildings, bridges, fly-overs, dams, Power Stations, roads, Aerodromes, tunnels for laying of pipelines for all purposes, and which is not covered under the Temporary tariff category;

<u>Note:</u>

Residential LT consumers with consumption above 500 units per month (current month of supply) and who undertake construction or renovation activity in their existing premises shall not require a separate Temporary category connection, and shall be billed at the LT-II Commercial Tariff rate;

l) Milk Collection Centres;

m) Sewage Treatment Plants/ Common Effluent Treatment Plants for Commercial Complexes not covered under the LT – Public Water Works or LT – Industry categories;

n) Stand-alone Research and Development units not covered under any other category;

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs. per month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| **LT II (A) 0-20 kW** | | | |

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs. per month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| (i) 0 to 200 units per month | 391.00 | 1.28 | 6.10 |
| (ii) Above 200 units per month (only balance consumption) | 391.00 | 1.28 | 9.25 |

**LT II (B): > 20 kW and ≤ 50 kW and (C) > 50 kW**

Applicability:

As per the applicability described in LT II (A) and for the Sanctioned Load in the range applicable in this sub-category, i.e. LT II (B) and LT II (C).

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs/kVA/month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| **LT II (B) > 20 kW and ≤ 50 kW** | 391.00 | 1.28 | 9.30 |
| **LT II (C) > 50 kW** | | 1.28 | 11.60 |
| **TOD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

Note:

The ToD Tariff is applicable for LT-II (B) and LT-II (C) (i.e. above 20 kW), and optionally available to LT- II (A) having ToD meter installed.

**LT III: LT-Public Water Works (PWW) and Sewage Treatment Plants**

Applicability:

This tariff category is applicable for electricity / power supply at Low / Medium Voltage for pumping of water, purification of water and allied activities relating to Public Water Supply Schemes, Sewage Treatment Plants and Waste Processing Units, provided they are owned or operated or managed by Local Self-Government Bodies (Gram Panchayats, Panchayat Samitis, Zilla Parishads, Municipal Councils and Corporations, etc.), or by Maharashtra Jeevan Pradhikaran (MJP), Maharashtra Industries Development Corporation (MIDC), Cantonment Boards and Housing Societies/complexes.

All other Public Water Supply Schemes and Sewage Treatment Plants (including allied activities) shall be billed under the LT II or LT V category tariff, as the case may be.

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs/ kVA/ month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| **LT III (A): 0 - 20 kW** | 97.00 | 1.28 | 2.15 |
| **LT III (B): > 20 kW and ≤ 40 kW** | 117.00 | 1.28 | 3.50 |
| **LT III (C): > 40 kW** | 146.00 | 1.28 | 4.80 |
| **TOD Tariffs (in addition to above base tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

## LT IV: Agriculture

### LT IV (A): LT - Agriculture Un-metered - Pumpsets

Applicability:

This tariff category is applicable for motive power supplied for Agriculture metered pumping loads, and for one lamp of wattage up to 40 Watt to be connected to the motive power circuit for use in pump-houses at Low/Medium Voltage.

**Rate Schedule**

| Consumer Category | Fixed / Demand Charge (Rs/ HP/ month) | Wheeling Charge (Rs/HP/Month) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| **LT IV (A): LT - Agriculture Un-metered Tariff - Pumpsets** | | | |
| Category 1 Zones* | | | |
| (a) 0-5 HP | 374.00 | 127.00 | - |
| (b) > 5 HP and ≤ 7.5 HP | 403.00 | 127.00 | - |
| (c) > 7.5 HP | 452.00 | 127.00 | - |
| Category 2 Zones # | | | |
| (a) 0-5 HP | 288.00 | 127.00 | - |
| (b) > 5 HP and ≤ 7.5 HP | 316.00 | 127.00 | - |
| (c) > 7.5 HP | 366.00 | 127.00 | - |

| *Category 1 Zones (with consumption norm above 1,318 hours/HP/year) | | |
|---|---|---|
| 6) Bhandup (U) | 7) Pune | 8) Nashik |
| 9) Baramati | 10) Jalgaon | |

| # Category 2 Zones (with consumption norm below 1,318 hours/HP/year) | | |
|---|---|---|
| p) Amaravati | q) Aurangabad | r) Kalyan |
| s) Konkan | t) Kolhapur | u) Latur |
| v) Nagpur (U) | w) Chandrapur | x) Gondia |
| y) Nanded | z) Akola | |

Note:

i. The Flat Rate Tariff as above will remain in force only till meters are installed; once meter is installed, the consumer will be billed as per the Tariff applicable to metered agricultural consumers.

ii. The list of Category 1 Zones (with consumption norm above 1318 hours/ HP/year) and Category 2 Zones (with consumption norm below 1318 hours/HP/year) is given above.

iii. Supply under this Tariff will be given for a minimum load of 2 HP. If any consumer requires any load less than 2 HP for agricultural purposes, he shall be required to pay the Fixed Charge/Energy Charge on this basis as if a load of 2 HP is connected.

**LT IV (B): LT – Agriculture metered - Pumpsets**

Applicability:

This tariff category is applicable for motive power supplied for Agriculture metered pumping loads, and for one lamp of wattage up to 40 Watt to be connected to the motive power circuit for use in pump-houses at Low/Medium Voltage.

It is also applicable for power supply for cane crushers and/or fodder cutters for self-use for agricultural processing operations, but not for operating a flour mill, oil mill or expeller in the same premises, either operated by a separate motor or a change of belt drive.

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs/ HP/ month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| All Units | 40.00 | 1.28 | 2.09 |

## LT IV (C): LT – Agriculture – Others

Applicability:

This tariff category is applicable for use of electricity / power supply at Low / Medium Voltage for:

aa) Pre-cooling plants and cold storage units for Agricultural Products – processed or otherwise;

bb) Poultries exclusively undertaking layer and broiler activities, including Hatcheries;

cc) High-Technology Agriculture (i.e. Tissue Culture, Green House, Mushroom cultivation activities), provided the power supply is exclusively utilized for purposes directly concerned with the crop cultivation process, and not for any engineering or industrial process;

dd) Floriculture, Horticulture, Nurseries, Plantations, Aquaculture, Sericulture, Cattle Breeding Farms, etc;

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs/ kW/ month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| All Units | 108.00 | 1.28 | 3.51 |

## LT V: LT- Industry:

### LT-V (A): LT – Industry – Power looms

Applicability:

This category shall be applicable for power supply to Powerlooms including other allied activities like, Warping, Doubling, Twisting, etc., connected at Low/Medium Tension only.

**Rate Schedule**

| Consumer Category | Fixed/Demand Charge | Wheeling Charge (Rs/kWh) | Energy Charge (Rs./kWh) |
|---|---|---|---|
| **LT-V(A): LT – Industry – Powerlooms** | | | |

| Consumer Category | Fixed/Demand Charge | Wheeling Charge (Rs/kWh) | Energy Charge (Rs./kWh) |
|---|---|---|---|
| (i) 0-20 kW | Rs. 441 per connection per month | 1.28 | 4.69 |
| (ii) Above 20 kW | Rs. 294 per kVA per month | 1.28 | 6.02 |
| **ToD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

Note:

The ToD Tariff is applicable for LT-V (A) (ii) (i.e. above 20 kW), and optionally available to LT- V (A) (i) (i.e. up to 20 kW) having ToD meter installed.

**LT-V (B): LT - Industry - General**

Applicability:

This tariff category is applicable for electricity for Industrial use, at Low/Medium Voltage, for purposes of manufacturing and processing, including electricity used within such premises for general lighting, heating/cooling, etc.

It is also applicable for use of electricity / power supply for Administrative Offices / Canteens, Recreation Hall / Sports Club or facilities / Health Club or facilities/ Gymnasium / Swimming Pool exclusively meant for employees of the industry; lifts, water pumps, fire-fighting pumps and equipment, street and common area lighting; Research and Development units, dhobi/laundry etc. -

Provided that all such facilities are situated within the same industrial premises and supplied power from the same point of supply;

This tariff category shall also be applicable for use of electricity / power supply by an Information Technology (IT) or IT-enabled Services (ITeS) Unit as defined in the applicable IT/ITeS Policy of Government of Maharashtra. Where such Unit does not hold the relevant permanent registration Certificate, the tariff shall be as per the LT II category, and the LT V(B) tariff shall apply to it after receipt of such permanent registration Certificate and till it is valid.

It shall also be applicable for use of electricity / power supply for (but not limited to) the following purposes:

a) Flour Mill, Dal Mill, Rice Mill, Poha Mill, Masala Mill, Saw Mill;

b) Ice Factory, Ice-cream manufacturing units, Milk Processing / Chilling Plants (Dairy);

c) Engineering Workshops, Engineering Goods Manufacturing units; Printing Presses; Transformer Repair Workshops; Tyre Remoulding/Rethreading units; and Vulcanizing units;

d) Mining, Quarrying and Stone Crushing units;

e) Garment Manufacturing units;

f) LPG/CNG bottling plants, etc.;

g) Sewage Treatment Plant/ Common Effluent Treatment Plant for industries, and not covered under the LT – Public Water Works category

h) Start-up power for Generating Plants, i.e. the power required for trial run of a Power Plant during commissioning of the Unit and its Auxiliaries, and for its start-up after planned or forced outage (but not for construction);

i) Brick Kiln (Bhatti);

j) Biotechnology Industries covered under the Biotechnology Policy of Government of Maharashtra;

k) Cold Storages not covered under LT IV (C) – Agriculture (Others);

l) Food (including seafood) Processing units.

m) Seed manufacturing

n) Dedicated Water Supply Schemes to power plants

o) Auxiliary Power Supply to EHV/Distribution Substations (but not for construction)

**Rate Schedule**

| Consumer Category | Fixed/Demand Charge | Wheeling Charge (Rs/kWh) | Energy Charge (Rs./kWh) |
|---|---|---|---|
| **LT-V (B): LT – Industry – General** | | | |
| (i) 0-20 kW | Rs. 441 per connection per month | 1.28 | 4.81 |
| (ii) Above 20 kW | Rs. 294 per kVA per month | 1.28 | 5.70 |
| **ToD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

Note:

The ToD Tariff is applicable for LT-V (B) (ii) (i.e. above 20 kW), and optionally available to LT- V (B) (i) (i.e. up to 20 kW) having ToD meter installed.

**LT VI: LT – Street Light**

Applicability:

This tariff category is applicable for the electricity used for lighting of public streets/ thoroughfares, which are open for use by the general public, at Low / Medium Voltage, and also at High Voltage.

Streetlights in residential complexes, commercial complexes, industrial premises, etc. will be billed at the tariff of the respective applicable categories.

This category is also applicable for use of electricity / power supply at Low / Medium Voltage or at High Voltage for (but not limited to) the following purposes, irrespective of who owns, operates or maintains these facilities:

a) Lighting in Public Gardens (i.e. which are open to the general public free of charge);

b) Traffic Signals and Traffic Islands;

c) Public Sanitary Conveniences;

d) Public Water Fountains; and

e) Such other public places open to the general public free of charge.

**Rate Schedule**

| Consumer Category | Fixed/Demand Charge (Rs per kW per month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| **LT VI: LT – Street Light** | | | |
| (A) Gram Panchayat, A, B & C Class Municipal Councils | 108.00 | 1.28 | 4.80 |
| (B) Municipal Corporation Areas | 108.00 | 1.28 | 5.85 |

Note:

The above street and other lighting facilities having 'Automatic Timers' for switching On/Off would be levied Demand Charges on the lower of the following–

i) 50 percent of ‘Contract Demand’ or

ii) Actual ‘Recorded Demand’.

## LT VII: LT-Temporary Supply

### LT VII (A): LT - Temporary Supply - Religious (TSR)

Applicability:

This tariff category is applicable for electricity supply at Low/Medium voltage for temporary purposes for public religious functions like Ganesh Utsav, Navaratri, Eid, Moharrum, Ram Lila, Diwali, Christmas, Guru Nanak Jayanti, etc., and for areas where community prayers are held; and for functions to commemorate anniversaries of personalities and National or State events for which Public Holidays have been declared, such as Gandhi Jayanti, Ambedkar Jayanti, Chhatrapati Shivaji Jayanti, Republic Day, Independence Day, etc.

This tariff will also be applicable to Circus Troupes

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs/connection/month) | Wheeling Charge (Rs/kWh) | Energy Charge ( Rs/kWh) |
|---|---|---|---|
| LT VII (A) – All Units | 443.00 | 1.28 | 3.27 |

### LT VII (B): LT - Temporary Supply - Others (TSO)

Applicability:

This tariff category is applicable for electricity used at Low/Medium voltage for Temporary use for a period not exceeding one year, other than for the religious or commemorative purposes covered under LT VII (A), for

a) Construction of all types of structures/ infrastructures such as buildings, bridges, fly-overs, dams, Power Stations, roads, Aerodromes, tunnels for laying of pipelines;

b) Any construction or renovation activity in existing premises;

c) Decorative lighting for exhibitions, circuses, film shootings, marriages, etc.,

d) Any other activity not covered under LT VII (A).

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs/connection/month) | Wheeling Charge (Rs/kWh) | Energy Charge ( Rs/kWh) |
|---|---|---|---|
| LT VII (B) – All Units | 449.00 | 1.28 | 12.79 |

Note:

(a) Additional Fixed Charges of Rs. 185 per 10 kW load or part thereof above 10 kW load shall be payable.

(b) Electricity used at Low / Medium Voltage for operating Fire-Fighting pumps and equipment in residential or other premises shall be charged as per the tariff category applicable to such premises.

**LT VIII: LT - Advertisements and Hoardings**

Applicability:

This tariff category is applicable for use of electricity at Low/ Medium Voltage for advertisements, hoardings (including hoardings fixed on lamp posts/installed along roadsides), and other commercial illumination such as external flood-lights, displays, neon signs at departmental stores, malls, multiplexes, theatres, clubs, hotels and other such establishments;

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs/connection/month) | Wheeling Charge (Rs/kWh) | Energy Charge ( Rs/kWh) |
|---|---|---|---|
| All Units | 833.00 | 1.28 | 12.00 |

Note:

(a) Consumers availing power supply at High Voltage for any of the above purposes shall be billed as per the tariff of this LT category.

(b) b) This category is not applicable to use of electricity specifically covered under the LT-II category; or to electricity used for the external illumination of monuments and historical/heritage buildings approved by MTDC or the concerned Local Authority, which shall be covered under the LT-II category depending upon the Sanctioned Load.

(c) The electricity used for indicating/ displaying the name and other details of the premises shall be covered under the category of such premises, and not under this tariff category.

## LT IX: LT- Crematorium and Burial Grounds

Applicability:

This tariff category is applicable for electricity used at Low/Medium Voltage in Crematoriums and Burial Grounds for all purposes, including lighting.

However, it will be applicable only to the portion of the premises catering to such activities. In case a part of the area is being used for other purposes, a separate meter will have to be provided for such purposes and the consumption charged at the applicable tariff.

### Rate Schedule

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs/connection/month) | Wheeling Charge (Rs/kWh) | Energy Charge ( Rs/kWh) |
|---|---|---|---|
| All Units | 438.00 | 1.28 | 3.26 |

## LT X: LT - Public Services

## LT X (A): LT - Government Educational Institutions and Hospitals

Applicability:

This tariff category is applicable for electricity supply at Low/Medium Voltage for Educational Institutions, such as Schools and Colleges; Health Care facilities, such as Hospitals, Dispensaries, Clinics, Primary Health Care Centres, Diagnostic Centres, Blood Bank and Pathology Laboratories; Libraries and public reading rooms - of the State or Central Government or Local Self-Government bodies such as Municipalities, Zilla Parishads, Panchayat Samitis, Gram Panchayats, etc;

It shall also be applicable for electricity used for Sports Clubs and facilities / Health Clubs and facilities / Gymnasium / Swimming Pools attached to such Educational Institutions / Hospitals, provided that they are situated in the same premises and are meant primarily for their students / faculty/ employees/ patients.

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/ Demand Charge | Wheeling Charge (Rs/kWh) | Energy Charge (Rs/kWh) |
|---|---|---|---|
| **LT X (A): LT - Public Services –Government Educational Institutions and Hospitals** | | | |
| **(iv) ≤ 20 kW** | | | |
| 0-200 units | Rs. 323 per connection per month | 1.28 | 3.00 |
| Above 200 units | Rs. 323 per connection per month | 1.28 | 4.20 |
| **(v) >20 - ≤ 50 kW** | Rs. 323 per kVA per month | 1.28 | 4.30 |
| **(vi) > 50 kW** | Rs. 323 per kVA per month | 1.28 | 5.40 |
| **ToD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

Note:

The ToD Tariff is applicable for LT-X (A) (ii) and LT-X (A) (iii) (i.e. above 20 kW), and optionally available to LT- X (A) (i) (i.e. up to 20 kW) having ToD meter installed.

**LT X (B): LT - Public Services - Others**

Applicability:

This tariff category is applicable for electricity supply at Low/Medium Voltage for

a) Educational Institutions, such as Schools and Colleges; Health Care facilities, such as Hospitals, Dispensaries, Clinics, Primary Health Care Centres, Diagnostic Centres, Blood Banks, Laboratories; Libraries and public reading rooms - other than those of the State or Central Government or Local Self-Government bodies such as Municipalities, Zilla Parishads, Panchayat Samitis, Gram Panchayats, etc.

b) Sports Clubs and facilities / Health Clubs and facilities / Gymnasium / Swimming Pools attached to such Educational Institutions /Health Care facilities, provided that they are situated in the same premises and are meant primarily for their students / faculty/ employees/ patients;

c) all offices of Government and Municipal/ Local Authorities/ Local Self-Government bodies, such as Municipalities, Zilla Parishads, Panchayat Samitis, Gram Panchayats; Police Stations and Police Chowkies; Post Offices; Armed Forces/Defence and Para-Military establishments;

d) Service-oriented Spiritual Organisations;

e) State or Municipal/Local Authority Transport establishments, including their Workshops

f) Fire Service Stations; Jails, Prisons; Courts;

g) Airports;

h) Ports and Jetties;

i) Railway/Metro/Monorail Stations, including Shops, Workshops, Yards, etc., if the supply is at Low/ Medium Voltage.

j) Waste processing units not covered under LT IV category

**Rate Schedule**

| Consumption Slab (kWh) | Fixed/ Demand Charge | Wheeling Charge (Rs/kWh) | Energy Charge (Rs./kWh) |
|---|---|---|---|
| **LT X (B): LT - Public Services – Others** | | | |
| **(iv) ≤ 20 kW** | | | |
| 0-200 units | Rs. 351 per connection per month | 1.28 | 4.25 |
| Above 200 units | Rs. 351 per connection per month | 1.28 | 6.90 |
| **(v) >20 - ≤ 50 kW** | Rs. 351 per kVA per month | 1.28 | 6.80 |
| **(vi) > 50 kW** | Rs. 351 per kVA per month | 1.28 | 7.20 |
| **ToD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

Note:

The ToD Tariff is applicable for LT-X (B) (ii) and LT-X (B) (iii) (i.e. above 20 kW), and optionally available to LT- X (B) (i) (i.e. up to 20 kW) having ToD meter installed.

## LT XI: LT – Electric Vehicle (EV) Charging Stations

### Applicability:

This Tariff category is applicable for Electric Vehicle Charging Station

In case the consumer uses the electricity supply for charging his own electric vehicle at his premises, the tariff applicable shall be as per the category of such premises.

Electricity consumption for other facilities at Charging Station such as restaurant, rest rooms, convenience stores, etc., shall be charged at tariff applicable to Commercial Category.

### Rate Schedule

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs./kVA/Month) | Wheeling Charge (Rs/kWh) | Energy Charge (Rs./kWh) |
|---|---|---|---|
| All Units | 70 | 4.72 | 1.28 |
| **ToD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

# HIGH TENSION (HT) TARIFF

## HT I: HT – Industry

### HT I (A): Industry – General

Applicability:

This tariff category is applicable for electricity for Industrial use at High Voltage for purposes of manufacturing and processing, including electricity used within such premises for general lighting, heating/cooling, etc.

It is also applicable for use of electricity / power supply for Administrative Offices / Canteen, Recreation Hall / Sports Club or facilities / Health Club or facilities/ Gymnasium / Swimming Pool exclusively meant for employees of the industry; lifts, water pumps, fire-fighting pumps and equipment, street and common area lighting; Research and Development units, etc. -

Provided that all such facilities are situated within the same industrial premises and supplied power from the same point of supply.

This tariff category shall be applicable for use of electricity / power supply by an Information Technology (IT) or IT-enabled Services (ITeS) Unit as defined in the applicable IT/ITes Policy of Government of Maharashtra. Where such Unit does not hold the relevant permanent registration Certificate, the tariff shall be as per the HT II category, and the HT I tariff shall apply to it after receipt of such permanent registration Certificate and till it is valid.

It shall also be applicable for use of electricity / power supply for (but not limited to) the following purposes:

a) Flour Mills, Dal Mills, Rice Mills, Poha Mills, Masala Mills, Saw Mills;

b) Ice Factories, Ice-cream manufacturing units, Milk Processing / Chilling Plants (Dairy);

c) Engineering Workshops, Engineering Goods manufacturing units; Printing Presses; Transformer Repair Workshops; Tyre Remoulding/Rethreading units, and Vulcanizing units;

d) Mining, Quarrying and Stone Crushing units;

e) Garment Manufacturing units

f) LPG/CNG bottling plants, etc.;

g) Sewage Treatment Plant/ Common Effluent Treatment Plant for industries, and not covered under the HT – PWW category

h) Start-up power for Generating Plants, i.e., the power required for trial run of a Power Plant during commissioning of the Unit and its Auxiliaries, and for its start-up after planned or forced outage (but not for construction);

i) Brick Kiln (Bhatti);

j) Biotechnology Industries covered under the Biotechnology Policy of Government of Maharashtra;

k) Cold Storages not covered under HT V (B)– Agriculture (Others);

l) Food (including Seafood) Processing units.

m) Seed manufacturing.

n) Dedicated Water Supply Schemes to Power Plants

o) Auxiliary Power Supply to EHV/Distribution Substations(but not for construction)

**HT I (B): Industry - Seasonal**

Applicability:

Applicable to Seasonal consumers, who are defined as those who normally work during a part of the year up to a maximum of 9 months, such as Cotton Ginning Factories, Cotton Seed Oil Mills, Cotton Pressing Factories, Salt Manufacturers, Khandsari/Jaggery Manufacturing Units, excluding Sugar Factories or such other consumers who opt for a seasonal pattern of consumption, such that the electricity requirement is seasonal in nature.

Provided that the period of operation of in a financial year should be limited upto 9 months, and the category should be opted for by the consumer within first quarter of the financial year'

**Rate Schedule**

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.37 |
| 11 kV | 0.76 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumer Category | Demand Charge (Rs/ kVA/ month) | Energy Charge (Rs/kWh) |
|---|---|---|
| **HT I: HT – Industry** | | |
| HT I (A): Industry - General | 391.00 | 7.07 |
| HT I (B): Industry - Seasonal | 391.00 | 7.34 |
| **ToD Tariffs (in addition to above base Tariffs)** | | |
| 2200 Hrs-0600 Hrs | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | 0.00 |
| 0900 Hrs-1200 Hrs | | 0.80 |
| 1800 Hrs-2200 Hrs | | 1.10 |

Note:

i. High Tension Industrial consumers having captive generation facility synchronised with the grid will pay additional Demand Charges of Rs. 20/kVA/Month only on the extent of Stand-by Contract Demand component and not on the entire Contract Demand.

ii. Stand-by Charges will be levied on such consumers on the Stand-by component, only if the consumer’s demand exceeds the Contract Demand.

iii. This additional Demand Charge will not be applicable if there is no Stand-by demand and the Captive Unit is synchronised with the Grid only for the export of power.

iv. Demand Charge shall be applicable at 25% of the above rates on the start-up demand contracted by the Power Plant (as referred to at (h) above) with the Distribution Licensee.

v. Demand Charge shall be applicable at 75% of the above rates for Steel Plant operating with electric arc furnaces.

**HT II: HT- Commercial**

Applicability:

This tariff category is applicable for electricity used at High Voltage in non-residential, non-industrial and/or commercial premises for commercial consumption meant for operating various appliances used for purposes such as lighting, heating, cooling, cooking, washing/cleaning, entertainment/ leisure and water pumping in, but not limited to, the following premises:

a) Non-Residential, Commercial and Business premises, including Shopping Malls and Showrooms;

b) Combined lighting and power services for facilities relating to Entertainment, including film studios, cinemas and theatres (including multiplexes), Hospitality, Leisure, Meeting/Town Halls, and places of Recreation and Public Entertainment;

c) Offices, including Commercial Establishments;

d) Marriage Halls, Hotels / Restaurants, Ice-cream parlours, Coffee Shops, Guest Houses, Internet / Cyber Cafes, Telephone Booths and Fax / Photocopy shops;

e) Automobile and all other types of repairs, servicing and maintenance centres (unless specifically covered under another tariff category); Retail Gas Filling Stations, Petrol Pumps & Service Stations, including Garages; -

f) Tailoring Shops, Computer Training Institutes, Typing Institutes, Photo Laboratories, Laundries, Beauty Parlours and Saloons;

g) Banks and ATM centres, Telephone Exchanges, TV Stations, Micro Wave Stations, Radio Stations, Telecommunications Tower;

h) Common facilities, like Water Pumping / Lifts / Fire-Fighting Pumps and other equipment / Street and other common area Lighting, etc., in Commercial Complexes;

i) Sports Clubs/facilities, Health Clubs/facilities, Gymnasiums, Swimming Pools not covered under any other category;

j) External illumination of monuments/ historical/heritage buildings approved by Maharashtra Tourism Development Corporation (MTDC) or the concerned Local Authority;

k) Construction of all types of structures/ infrastructures such as buildings, bridges, fly-overs, dams, Power Stations, roads, Aerodromes, tunnels for laying of pipelines for all purposes, and which is not covered under the HT - Temporary category;

Note:

Residential LT consumers with consumption above 500 units per month (current month of supply) and who undertake construction or renovation activity in their existing premises shall not require a separate Temporary category connection but be billed at the LT-II Commercial tariff;

l) Milk Collection Centres;

m) Sewage Treatment Plant/ Common Effluent Treatment Plant for Commercial Complexes, not covered under the HT- PWW category or HT I - Industry

n) Stand-alone Research and Development units not covered under any other category;

**Rate Schedule**

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.37 |
| 11 kV | 0.76 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumer Category | Demand Charge (Rs/ kVA/ month) | Energy Charge (Rs/kWh) |
|---|---|---|
| All Units | 391.00 | 11.73 |
| **TOD Tariffs (in addition to above base tariffs)** | | |
| 2200 Hrs-0600 Hrs | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | 0.00 |
| 0900 Hrs-1200 Hrs | | 0.80 |
| 1800 Hrs-2200 Hrs | | 1.10 |

Note:

A consumer in the HT II category requiring single-point supply for the purpose of downstream consumption by separately identifiable entities shall have to operate as a Franchisee authorised as such by the Distribution Licensee; or such downstream entities shall be required to take separate individual connections and be charged under the tariff category applicable to them.

## HT III - Railways/Metro/Monorail

Applicability:

This tariff category is applicable to power supply at High Voltage for Railways, Metro and Monorail, including Stations and Shops, Workshops, Yards, etc.

### Rate Schedule

**Wheeling Charge**

| Supply Voltage Level | (Rs/kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.37 |
| 11 kV | 0.76 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Demand Charge (Rs/ kVA/ month) | Energy Charge (Rs/kWh) |
|---|---|---|
| All Units | 391.00 | 7.00 |

## HT IV: HT - Public Water Works (PWW) and Sewage Treatment Plants

Applicability:

This tariff category is applicable for electricity / power supply at High Voltage for pumping of water, purification of water and allied activities relating to Public Water Supply Schemes, Sewage Treatment Plants and waste processing units, provided they are owned or operated or managed by Local Self-Government Bodies (Gram Panchayats, Panchayat Samitis, Zilla Parishads, Municipal Councils and Corporations, etc.), or by Maharashtra Jeevan Pradhikaran (MJP), Maharashtra Industries Development Corporation (MIDC), Cantonment Boards and Housing Societies/complexes.

All other Public Water Supply Schemes and Sewage Treatment Plants (including allied activities) shall not be eligible under this tariff category, but be billed at the tariff applicable to the HT I or HT II categories, as the case may be.

## Rate Schedule

### Wheeling Charge

| Supply Voltage Level | (Rs/kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.37 |
| 11 kV | 0.76 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Demand Charge (Rs/ kVA/ month) | Energy Charge (Rs/kWh) |
|---|---|---|
| All Units | 391.00 | 6.30 |
| **TOD Tariffs (in addition to above base tariffs)** | | |
| 2200 Hrs-0600 Hrs | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | 0.00 |
| 0900 Hrs-1200 Hrs | | 0.80 |
| 1800 Hrs-2200 Hrs | | 1.10 |

### HT V: HT – Agriculture

### HT V(A) : HT – Agriculture Pumpsets

Applicability:

This category shall be applicable for Electricity / Power Supply at High Tension for pumping of water exclusively for the purpose of Agriculture / cultivation of crops including HT Lift Irrigation Schemes (LIS) irrespective of ownership.

It is also applicable for power supply for cane crushers and/or fodder cutters for self-use for agricultural processing operations, but not for operating a flour mill, oil mill or expeller in the same premises, either operated by a separate motor or a change of belt drive.

### HT V (B) : HT – Agriculture Others

Applicability:

This tariff category is applicable for use of electricity / power supply at High Voltage for:

a) Pre-cooling plants and cold storage units for Agricultural Products – processed or otherwise;

b) Poultries exclusively undertaking layer and broiler activities, including Hatcheries;

c) High-Technology Agriculture (i.e. Tissue Culture, Green House, Mushroom cultivation activities), provided the power supply is exclusively utilized for purposes directly concerned with the crop cultivation process, and not for any engineering or industrial process;

d) d) Floriculture, Horticulture, Nurseries, Plantations, Aquaculture, Sericulture, Cattle Breeding Farms, etc;

**Rate Schedule**

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.37 |
| 11 kV | 0.76 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumer Category | Demand Charge (Rs./ kVA/ month) | Energy Charge (Rs./kWh) |
|---|---|---|
| **HT V : HT Agriculture** | | |
| HT V (A) : HT Agriculture Pumpsets | 69.00 | 3.77 |
| HT V (B) : HT Agriculture Others | 69.00 | 5.20 |

**HT VI: HT - Group Housing Society (Residential)**

Applicability:

Entities supplied electricity at a single point at High Voltage for residential purposes in accordance with the Electricity (Removal of Difficulties) Eighth Order, 2005, in the following cases:

a) a Co-operative Group Housing Society which owns the premises, for making electricity available to the members of such Society residing in the same premises for residential purposes; and

b) a person, for making electricity available to its employees residing in the same premises for residential purposes.

## Rate Schedule

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.37 |
| 11 kV | 0.76 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Demand Charge (Rs./ kVA/ month) | Energy Charge (Rs./kWh) |
|---|---|---|
| All Units | 313.00 | 5.82 |

## HT VIII- HT - Temporary Supply

## HT VIII (A) - HT - Temporary Supply Religious (TSR)

Applicability:

This tariff category is applicable for electricity supply at High Voltage, for temporary use for a period not exceeding one year, for public religious functions like Ganesh Utsav, Navaratri, Eid, Moharrum, Ram Lila, Diwali, Christmas, Guru Nanak Jayanti, etc. or for areas where community prayers are held; and for functions to commemorate anniversaries of personalities and National or State events for which Public Holidays have been declared, such as Gandhi Jayanti, Ambedkar Jayanti, Chhatrapati Shivaji Jayanti, Republic Day, Independence Day, etc.

## Rate Schedule

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.37 |
| 11 kV | 0.76 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs./ connection/ month) | Energy Charge (Rs./kWh) |
|---|---|---|
| All Units | 418.00 | 3.75 |

## HT VIII (B): HT - Temporary Supply Others (TSO)

Applicability:

This tariff category is also applicable for electricity supplied at High Voltage for Temporary use for a period not exceeding one year for

a) Construction of all types of structures/ infrastructures such as buildings, bridges, fly-overs, dams, Power Stations, roads, Aerodromes, tunnels for laying of pipelines for all purposes;

b) Any construction or renovation activity in existing premises;

c) Decorative lighting for exhibitions, circuses, film shootings, marriages, etc.,

**Rate Schedule**

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 22 kV | 0.37 |
| 11 kV | 0.76 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Fixed/Demand Charge (Rs./ kVA/ month) | Energy Charge (Rs./kWh) |
|---|---|---|
| All Units | 391.00 | 12.00 |

Note:

Additional Fixed Charges of Rs.230 per 10 kW load or part thereof above 10 kW load shall be payable.

## HT IX: HT Public Services

### HT IX – (A): HT - Government Educational Institutions and Hospitals

Applicability:

This tariff category is applicable for electricity supply at High Voltage for Educational Institutions, such as Schools and Colleges; Health Care facilities, such as Hospitals, Dispensaries, Clinics, Primary Health Care Centres, Diagnostic Centres, Blood Banks and Pathology Laboratories; Libraries and public reading rooms - of the State or Central Government, Local Self-Government bodies such as Municipalities, Zilla Parishads, Panchayat Samitis, Gram Panchayats, etc;

It shall also be applicable for electricity used for Sports Clubs and facilities / Health Clubs and facilities / Gymnasium / Swimming Pools attached to such Educational Institutions / Health Care facilities, provided that they are situated in the same premises and are meant primarily for the students / faculty/ employees/ patients of such Educational Institutions and Hospitals.

## Rate Schedule

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.37 |
| 11 kV | 0.76 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Demand Charge (Rs/ kVA/ month) | Energy Charge (Rs/kWh) |
|---|---|---|
| All Units | 391.00 | 7.90 |
| **TOD Tariffs (in addition to above base tariffs)** | | |
| 2200 Hrs-0600 Hrs | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | 0.00 |
| 0900 Hrs-1200 Hrs | | 0.80 |
| 1800 Hrs-2200 Hrs | | 1.10 |

## HT IX - (B): Public Service - Others

Applicability:

This tariff category is applicable for electricity supply at High Voltage for

i) Educational Institutions, such as Schools and Colleges; Health Care facilities, such as Hospitals, Dispensaries, Clinics, Primary Health Care Centres, Diagnostic Centres, Blood Banks and Pathology Laboratories; Libraries and public reading rooms - other than those of the State or Central Government, Local Self-Government bodies such as Municipalities, Zilla Parishads, Panchayat Samities, Gram Panchayats, etc.

- Sports Clubs and facilities / Health Clubs and facilities / Gymnasium / Swimming Pools attached to such Educational Institutions / Health Care facilities, provided that they are situated in the same premises and are meant primarily for their students / faculty/ employees/ patients;

j) all offices of Government and Municipal/ Local Authorities/ Local Self-Government bodies, such as Municipalities, Zilla Parishads, Panchayat Samitis, Gram Panchayats;

Police Stations and Police Chowkies; Post Offices; Armed Forces/Defence and Para-Military establishments;

k) Service-oriented Spiritual Organisations;

l) State or Municipal/Local Authority Transport establishments, including their Workshops;

m) Fire Service Stations; Jails, Prisons; Courts.

n) Airports

o) Ports and Jetties

p) Waste processing units not covered under HT IV category

## Rate Schedule

**Wheeling Charge**

| Supply Voltage Level | (Rs./kWh) |
|---|---|
| 66 kV and above | - |
| 33 kV | 0.15 |
| 22 kV | 0.37 |
| 11 kV | 0.76 |

**PLUS**

**Demand/Fixed Charge and Energy Charge (for all Supply Voltage Levels)**

| Consumption Slab (kWh) | Demand Charge (Rs./ kVA/ month) | Energy Charge (Rs./kWh) |
|---|---|---|
| All Units | 391.00 | 9.70 |
| **TOD Tariffs (in addition to above base tariffs)** | | |
| 2200 Hrs-0600 Hrs | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | 0.00 |
| 0900 Hrs-1200 Hrs | | 0.80 |
| 1800 Hrs-2200 Hrs | | 1.10 |

## HT X: HT – Electric Vehicle (EV) Charging Stations

**Applicability:**

This Tariff category is applicable for Electric Vehicle Charging Station

In case the consumer uses the electricity supply for charging his own electric vehicle at his premises, the tariff applicable shall be as per the category of such premises.

Electricity consumption for other facilities at Charging Station such as restaurant, rest rooms, convenience stores, etc., shall be charged at tariff applicable to Commercial Category.

## Rate Schedule

### Wheeling Charges and Energy Charges

| Supply Voltage Level | Wheeling Charge (Rs./kWh) | Energy Charge (Rs./kWh) |
|---|---|---|
| 66 kV and above | - | - |
| 33 kV | 0.15 | 5.85 |
| 22 kV | 0.37 | 5.63 |
| 11 kV | 0.76 | 5.24 |

| Consumption Slab (kWh) | Fixed/ Demand Charge (Rs./kVA/Month) | | Energy Charge (Rs./kWh) |
|---|---|---|---|
| All Units | 70 | | |
| **ToD Tariffs (in addition to above base Tariffs)** | | | |
| 2200 Hrs-0600 Hrs | | | -1.50 |
| 0600 Hrs-0900 Hrs & 1200 Hrs-1800 Hrs | | | 0.00 |
| 0900 Hrs-1200 Hrs | | | 0.80 |
| 1800 Hrs-2200 Hrs | | | 1.10 |

## MISCELLANEOUS AND GENERAL CHARGES

### Fuel Adjustment Charge (FAC) Component of Z-factor Charge

The Fuel Adjustment Charge (FAC) component of the Z-factor Charge will be determined in accordance with the formula specified in the relevant Multi Year Tariff Regulations and any directions that may be given by the Commission from time to time, and will be applicable to all consumer categories for their entire consumption.

In case of any variation in the fuel prices and power purchase prices, the Distribution Licensee shall pass on the adjustments through the FAC component of the Z-factor Charge accordingly.

The details of the applicable $Z_{FAC}$ for each month shall be available on the Distribution Licensee's website www.mahadiscom.in.

### Electricity Duty and Tax on Sale of Electricity

Electricity Duty and Tax on Sale of Electricity shall be levied in addition to the tariffs approved by the Commission, and in accordance with the Government of Maharashtra stipulations from time to time. The rate and the reference number of the Government Resolution/ Order under which the Electricity Duty and Tax on Sale of Electricity are applied shall be stated in the consumers' energy bills. A copy of such Resolution / Order shall be provided on the Distribution Licensee's website www.mahadiscom.in.

### Power Factor Computation

Where the average Power Factor measurement is not possible through the installed meter, the following formula for calculating the average Power Factor during the billing period shall be applied:

$$\text{Average Power Factor} = \frac{Total(kWH)}{Total(kVAh)}$$

$$\text{Wherein the kVAh is} \quad = \sqrt{\sum (kWh)^2 + \sum (RkVAh)^2}$$

(i.e., Square Root of the summation of the squares of kWh and RkVAh )

### Power Factor Incentive

5. Applicable for HT-I :Industry, HT II - Commercial, HT-III: Railways, Metro & Monorail, HT-IV : PWW, HT-V: Agriculture, HT-VI: Group Housing Society, HT VIII - Temporary Supply, HT IX: Public Service, HT X: Electric Vehicle Charging Station, LT II: Non-Residential/Commercial [LT II(B), LT II (C)], LT III: Public Water Works , LT V (A) (ii): Industry – Powerlooms (above 20 kW) , LT V (B) (ii): Industry – General

(above 20 kW), LT X : Public Services [LT X (A) (ii) , LT X (A) (iii) , LT X (B) (ii) and LT X (B) (iii) categories], LT XI : Electric Vehicle Charging Station.

6. Whenever the average Power Factor is more than 0.95 lag and upto 1, an incentive shall be given at the rate of the following percentages of the amount of the monthly electricity bill, excluding Taxes and Duties:

| Sl. | Range of Power Factor | Power Factor Level | Incentive |
|---|---|---|---|
| 1 | 0.951 to 0.954 | 0.95 | 0% |
| 2 | 0.955 to 0.964 | 0.96 | 0.5% |
| 3 | 0.965 to 0.974 | 0.97 | 1.0% |
| 4 | 0.975 to 0.984 | 0.98 | 1.5% |
| 5 | 0.985 to 0.994 | 0.99 | 2.5% |
| 6 | 0.995 to 1.000 | 1.00 | 3.5% |

Note: Power Factor shall be measured/computed upto 3 decimals, after universal rounding off.

**Power Factor Penalty**

7. Applicable for HT-I :Industry, HT II - Commercial, HT-III: Railways, Metro & Monorail, HT-IV : PWW, HT-V: Agriculture, HT-VI: Group Housing Society, HT VIII - Temporary Supply, HT IX: Public Service, HT X: Electric Vehicle Charging Station, LT II: Non-Residential/Commercial [LT II (B), LT II (C)], LT III: Public Water Works , LT V (A) (ii): Industry – Powerlooms (above 20 kW) , LT V (B) (ii): Industry – General (above 20 kW), LT X : Public Services [LT X (A) (ii) , LT X (A) (iii) , LT X (B) (ii) and LT X (B) (iii) categories], LT XI : Electric Vehicle Charging Station.

8. Whenever the average PF is less than 0.9 (lag or lead), penal charges shall be levied at the rate of the following percentages of the amount of the monthly electricity bill, excluding Taxes and Duties:

| Sl. | Range of Power Factor | Power Factor Level | Penalty |
|---|---|---|---|
| 1 | 0.895 to 0.900 | 0.90 | 0% |
| 2 | 0.885 to 0.894 | 0.89 | 1.0% |
| 3 | 0.875 to 0.884 | 0.88 | 1.5% |
| 4 | 0.865 to 0.874 | 0.87 | 2.0% |
| 5 | 0.855 to 0.864 | 0.86 | 2.5% |
| 6 | 0.845 to 0.854 | 0.85 | 3.0% |
| 7 | 0.835 to 0.844 | 0.84 | 3.5% |
| 8 | 0.825 to 0.834 | 0.83 | 4.0% |
| 9 | 0.815 to 0.824 | 0.82 | 4.5% |
| 10 | 0.805 to 0.814 | 0.81 | 5.0% |
| ... | ... | ... | ... |

Note:

Power Factor shall be measured/computed upto 3 decimals, after universal rounding off.

**Prompt Payment Discount**

A prompt payment discount of one percent of the monthly bill (excluding Taxes and Duties) shall be provided to consumers for payment of electricity bills within 7 days from the date of their issue.

**Discount for digital payment**

A discount of 0.25% of the monthly bill (excluding taxes and duties), subject to a cap of Rs. 500/-, shall be provided to LT category consumers for payment of electricity bills through various modes of digital payment such as credit cards, debit cards, UPI, BHIM, internet banking, mobile banking, mobile wallets etc.

**Delayed Payment Charges**

In case the electricity bill is not paid within the due date mentioned on the bill, delayed payment charges of 1.25 percent shall be levied on the total amount of the electricity bill (including Taxes and Duties).

**Rate of Interest on Arrears**

The rate of interest chargeable on the arrears of payment of billed dues shall be as given below:

| Sr. No. | Delay in Payment (months) | Interest Rate per annum (%) |
|---|---|---|
| 1 | Payment made after 60 days and before 90 days from the date of billing | 12% |
| 2 | Payment made after 90 days and up to 180 days from the date of billing | 15% |
| 3 | Payment made after 180 days from the date of billing | 18% |

**Load Factor Incentive**

9. Consumers having Load Factor above 75% and upto 85% will be entitled to an incentive in the form of a rebate of 0.75% on the Energy Charges for every percentage point increase in Load Factor from 75% to 85%. Consumers having a Load Factor above 85 % will be entitled to a rebate of 1% on the Energy Charges for every percentage point increase in Load Factor from 85%. The total rebate will be subject to a ceiling of 15% of the Energy Charges applicable to the consumer.

10. This incentive is applicable only to consumers in the tariff categories HT I: Industry, HT II: Commercial and HT IX: Public Services.

11. The Load Factor incentive will be available only if the consumer has no arrears with the Distribution Licensee, and payment is made within seven days from the date of the

electricity bill. However, it will be available to consumers in whose case payment of arrears in instalments has been allowed by the Distribution Licensee, and such payment is being made as scheduled. The Distribution Licensee shall take a commercial decision on the schedule for such payments.

12. The Load Factor is to be computed as follows:

$$\text{Load Factor} = \frac{\text{Consumption during the month in MU}}{\text{Maximum Consumption Possible during the month in MU}}$$

Maximum consumption possible = Contract Demand (kVA) x Actual Power Factor x (Total no. of hours during the month, less planned load shedding hours*)
* - Interruption/non-supply to the extent of 60 hours in a 30-day month.

In case the consumer exceed its Contract Demand (including during the non-peak hours, i.e., 22:00 hrs to 06:00 hrs.) in any particular month, the Load Factor Incentive will not be payable to the consumer in that month

**Penalty for exceeding Contract Demand**

In case a consumer (availing Demand-based Tariff) exceeds his Contract Demand, he will be billed at the applicable Demand Charge rate for the Demand actually recorded, and also be charged an additional amount at the rate of 150% of the applicable Demand Charge (only for the Demand in excess of the Contract Demand).

Under these circumstances, the consumer shall not be liable for any other action under Section 126 of the EA, 2003, since the penal additional Demand Charge provides for the penalty that the consumer is liable to pay for exceeding his Contract Demand. In case a consumer exceeds his Contract Demand on more than three occasions in a calendar year, the action to be taken would be governed by the provisions of the Supply Code Regulations.

**Additional Demand Charges for Consumers having Captive Power Plant**

For consumers having a Captive Power Plant, additional Demand Charges at the rate of Rs. 20/kVA/month shall be payable only on the extent of the Stand-by demand component and not on the entire Contract Demand. The additional Demand Charges will be levied on the Stand-by component only if the consumer’s demand exceeds his Contract Demand.

**Consumers’ Security Deposit**

13) Subject to the provisions of Section 47(5) of the Electricity Act, 2003, the Distribution Licensee shall require any person to whom supply of electricity has been sanctioned to deposit an amount as security in accordance with the provisions of Section 47(1) (a).

14) The amount of the Security Deposit shall be equal to the average of three months’ of billing or the billing cycle period, whichever is lesser. For determining the average

billing, the average of the billing to the consumer for the last twelve months or, where supply has been provided for a shorter period, the average of the billing of such shorter period, shall be considered

15) Where the Distribution Licensee requires security from a consumer at the time of commencement of service, the amount of such security shall be estimated based on the tariff category and Contract Demand/Sanctioned Load, Load Factor, diversity factor and number of working shifts of the consumer.

16) MSEDCL shall re-calculate the amount of Security Deposit payable, based on the actual billing of the consumer, once in each financial year.

17) Where the amount of Security Deposit maintained by the consumer is higher than the security required to be maintained under the Supply Code Regulations, the Distribution Licensee shall refund the excess amount to the consumer in a single instalment.

18) Such refund shall be made upon a request of the person who gave the security, and with intimation to the consumer if different from such person; and shall be made, at the option of such person, by way of adjustment in the next bill or by way of a separate cheque payment within 30 days from the receipt of such request;

19) No refund shall be required to be made where the amount of refund does not exceed 10% of the amount of the Security Deposit required to be maintained by the consumer or Rs 300/-, whichever is higher.

20) Where the amount of security re-assessed as above is higher than the Security Deposit of the consumer, the Distribution Licensee shall be entitled to raise a demand for additional security deposit. The consumer shall be given not less than 30 days to deposit the additional security pursuant to such demand.

21) Upon termination of supply, the Distribution Licensee shall, after recovery of all amounts due, refund the remaining amount of security to the person who deposited it, with intimation to the consumer if different from such person.

22) A consumer - (i) with a consumption of electricity of not less than one lakh kilo-Watt hours per month; and (ii) with no undisputed sums payable to the Distribution Licensee under Section 56 of the Electricity Act, 2003 may, at the option of such consumer, deposit security by way of cash, irrevocable letter of credit or unconditional Bank Guarantee issued by a scheduled commercial Bank.

23) The Distribution Licensee shall pay interest on the amount of Security Deposit in cash (including by cheque or demand draft) at the Base Rate of State Bank of India as on 1st April of the financial year for which the interest is payable, plus 150 basis points, provided that the amount of such cash Deposit maintained by the consumer is at least Rs. 50/-.

24) Interest on the Security Deposit made in cash shall be payable from the date of its deposit by the consumer till the date of dispatch of the refund by the Distribution Licensee.

## Definitions

### Maximum Demand

Maximum Demand in kilo-Watts or kilo-Volt Amperes, in relation to any period shall, unless otherwise provided in any general or specific Order of the Commission, mean twice the highest number of kilo-watt-hours or kilo-Volt Ampere hours supplied and taken during any consecutive thirty minute blocks in that period.

### Contract Demand

Contract Demand means the demand in kilo-Watt (kW) or kilo–Volt Amperes (kVA), mutually agreed between the Distribution Licensee and the consumer as entered into in the agreement or agreed through other written communication. (For conversion of kW into kVA, the Power Factor of 0.80 shall be applied.)

### Sanctioned Load

Sanctioned Load means the load in kW mutually agreed between the Distribution Licensee and the consumer.
In case the meter is installed on the LV/MV side, the methodology to be followed for billing purpose is as follows

- 2% to be added to MV demand reading, to determine the kW or kVA billing demand, and
- 'X' units to the MVA reading to determine the total energy compensation to compensate the transformation losses, where is calculated as follows
  'X' = (730 * kVA rating of transformer)/500 Units/month, to compensate for the iron losses, plus one percent of units registered on the LT side for copper losses.

### Billing Demand - LT tariff categories

Billing Demand for LT Non-Residential / Commercial [LT: II (B) , LT II (C)] , LT III: Public Water Works , LT V (A) (ii): Industry - Power Looms (above 20 kW) , LT V (B) (ii): Industry - General (above 20 kW), LT X (A) Public Services - Government Owned Educational Institutes and Hospitals [LT X (A) (ii) and LT X (A) (iii)] , LT X (B) Public Services - Others [LT X (B) (ii) and LT X (B) (iii)], LT XI category having MD based Tariff:-

Monthly Billing Demand will be the higher of the following:

c) 65% of the actual Maximum Demand recorded in the month during 0600 hours to 2200 hours;
d) 40% of the Contract Demand.

*Note:*

- Only the Demand registered during the period 0600 to 2200 Hrs. will be considered for determination of the Billing Demand.

- In case of a change in Contract Demand, the above period will be reckoned from the month following the month in which the change in Contract Demand is effected.

**Billing Demand - HT tariff categories**

Billing Demand for HT I: Industry, HT II: Commercial, HT III Railway/Metro/Monorail, HT IV: Public Water Works, HT V: Agriculture, HT VI: Group Housing Society (Residential), HT VIII: Temporary Supply, HT IX: Public Services, HT X: Electric Vehicle Charging Station.

Monthly Billing Demand will be the higher of the following:

d) Actual Maximum Demand recorded in the month during 0600 hours to 2200 hours;
e) 75% of the highest Billing Demand recorded during the preceding eleven months, subject to the limit of Contract Demand;
f) 50% of the Contract Demand.

*Note:*

- Only the Demand registered during the period 0600 to 2200 Hrs. will be considered for determination of the Billing Demand.

- In case of a change in Contract Demand, the above period will be reckoned from the month following the month in which the change of Contract Demand is effected.

HT Seasonal Category (HT I)

During Declared Season, Monthly Billing Demand will be the higher of the following:

iv. Actual Maximum Demand recorded in the month during 0600 hours to 2200 hours

v. 75% of the Contract Demand

vi. 50 kVA.

During Declared Off-season, Monthly Billing Demand will be the following:

ii. Actual Maximum Demand recorded in the month during 0600 hours to 2200 hours

The Billing Demand for the consumers with CPP will be governed as per the CPP Order in Case No. 55 and 56 of 2003.

# ANNEXURE III – Monthly Approved Stack approved for FY 2018-19 and FY 2019-20

| Generator Name | VC per unit (Rs/kWh) | Apr-18 Energy (MU) | Apr-18 VC (Rs. Crore) | May-18 Energy (MU) | May-18 VC (Rs. Crore) | Jun-18 Energy (MU) | Jun-18 VC (Rs. Crore) | Jul-18 Energy (MU) | Jul-18 VC (Rs. Crore) | Aug-18 Energy (MU) | Aug-18 VC (Rs. Crore) | Sep-18 Energy (MU) | Sep-18 VC (Rs. Crore) | Oct-18 Energy (MU) | Oct-18 VC (Rs. Crore) | Nov-18 Energy (MU) | Nov-18 VC (Rs. Crore) | Dec-18 Energy (MU) | Dec-18 VC (Rs. Crore) | Jan-19 Energy (MU) | Jan-19 VC (Rs. Crore) | Feb-19 Energy (MU) | Feb-19 VC (Rs. Crore) | Mar-19 Energy (MU) | Mar-19 VC (Rs. Crore) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Must Run Stations** | | | | | | | | | | | | | | | | | | | | | | | | | |
| KAPP | 2.49 | 84 | 21 | 87 | 22 | 84 | 21 | 87 | 22 | 87 | 22 | 84 | 21 | 87 | 22 | 84 | 21 | 87 | 22 | 87 | 22 | 78 | 20 | 87 | 22 |
| TAPP 1&2 | 1.13 | 88 | 10 | 91 | 10 | 88 | 10 | 91 | 10 | 91 | 10 | 88 | 10 | 91 | 10 | 88 | 10 | 91 | 10 | 91 | 10 | 82 | 9 | 91 | 10 |
| TAPP 3&4 | 3.09 | 248 | 77 | 256 | 79 | 248 | 77 | 256 | 79 | 256 | 79 | 248 | 77 | 256 | 79 | 248 | 77 | 256 | 79 | 256 | 79 | 231 | 71 | 256 | 79 |
| SSP | 2.05 | 93 | 19 | 96 | 20 | 93 | 19 | 96 | 20 | 96 | 20 | 93 | 19 | 96 | 20 | 93 | 19 | 96 | 20 | 96 | 20 | 87 | 18 | 96 | 20 |
| Pench | 2.05 | 10 | 2 | 11 | 2 | 10 | 2 | 11 | 2 | 11 | 2 | 10 | 2 | 11 | 2 | 10 | 2 | 11 | 2 | 11 | 2 | 10 | 2 | 11 | 2 |
| Dodson I | 1.42 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 |
| Dodson II | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - |
| Renewable - Non- Solar | 5.29 | 1,150 | 608 | 1,176 | 622 | 1,125 | 595 | 1,052 | 556 | 1,046 | 553 | 1,070 | 566 | 1,145 | 605 | 1,139 | 603 | 1,121 | 593 | 1,168 | 618 | 1,144 | 605 | 1,220 | 645 |
| Renewable - Solar | 4.19 | 288 | 120 | 294 | 123 | 281 | 118 | 263 | 110 | 262 | 110 | 268 | 112 | 286 | 120 | 285 | 119 | 280 | 117 | 292 | 122 | 286 | 120 | 305 | 128 |
| Hydro | 0.00 | 313 | 0 | 324 | 0 | 313 | 0 | 324 | 0 | 324 | 0 | 313 | 0 | 324 | 0 | 313 | 0 | 324 | 0 | 324 | 0 | 292 | 0 | 324 | 0 |
| **Stations under MOD** | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHATGHAR | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Lara | 0.93 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SIPAT TPS 1 | 1.21 | 324 | 39 | 335 | 40 | 324 | 39 | 335 | 40 | 335 | 40 | 324 | 39 | 335 | 40 | 324 | 39 | 335 | 40 | 335 | 40 | 302 | 36 | 335 | 40 |
| KSTPS III | 1.22 | 74 | 9 | 77 | 9 | 74 | 9 | 77 | 9 | 77 | 9 | 74 | 9 | 77 | 9 | 74 | 9 | 77 | 9 | 77 | 9 | 69 | 8 | 77 | 9 |
| SIPAT TPS 2 | 1.24 | 155 | 19 | 160 | 20 | 155 | 19 | 160 | 20 | 160 | 20 | 155 | 19 | 160 | 20 | 155 | 19 | 160 | 20 | 160 | 20 | 145 | 18 | 160 | 20 |
| KSTPS | 1.24 | 351 | 44 | 362 | 45 | 351 | 44 | 362 | 45 | 362 | 45 | 351 | 44 | 362 | 45 | 351 | 44 | 362 | 45 | 362 | 45 | 327 | 41 | 362 | 45 |
| Gadarwara | 1.32 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 27 | 4 | 27 | 4 | 25 | 3 | 27 | 4 |
| VSTP II | 1.40 | 188 | 26 | 194 | 27 | 188 | 26 | 194 | 27 | 194 | 27 | 188 | 26 | 194 | 27 | 188 | 26 | 194 | 27 | 194 | 27 | 176 | 25 | 194 | 27 |
| VSTP IV | 1.41 | 185 | 26 | 191 | 27 | 185 | 26 | 191 | 27 | 191 | 27 | 185 | 26 | 191 | 27 | 185 | 26 | 191 | 27 | 191 | 27 | 172 | 24 | 191 | 27 |
| VSTP III | 1.41 | 156 | 22 | 161 | 23 | 156 | 22 | 161 | 23 | 161 | 23 | 156 | 22 | 161 | 23 | 156 | 22 | 161 | 23 | 161 | 23 | 145 | 20 | 161 | 23 |
| VSTP V | 1.42 | 92 | 13 | 95 | 14 | 92 | 13 | 95 | 14 | 95 | 14 | 92 | 13 | 95 | 14 | 92 | 13 | 95 | 14 | 95 | 14 | 86 | 12 | 95 | 14 |
| VSTP I | 1.50 | 242 | 36 | 250 | 38 | 242 | 36 | 250 | 38 | 250 | 38 | 242 | 36 | 250 | 38 | 242 | 36 | 250 | 38 | 250 | 38 | 226 | 34 | 250 | 38 |
| Mundra UMPP | 1.63 | 420 | 68 | 434 | 71 | 420 | 68 | 434 | 71 | 434 | 71 | 420 | 68 | 434 | 71 | 420 | 68 | 434 | 71 | 434 | 71 | 392 | 64 | 434 | 71 |
| Adani power 1320 MW | 1.88 | 719 | 135 | 743 | 140 | 719 | 135 | 743 | 140 | 743 | 140 | 719 | 135 | 743 | 140 | 719 | 135 | 743 | 140 | 743 | 140 | 671 | 126 | 743 | 140 |
| EMCO Power | 1.83 | 105 | 19 | 109 | 20 | 105 | 19 | 109 | 20 | 109 | 20 | 105 | 19 | 109 | 20 | 105 | 19 | 109 | 20 | 109 | 20 | 98 | 18 | 109 | 20 |
| GTPS URAN | 1.94 | 276 | 54 | 285 | 55 | 276 | 54 | 285 | 55 | 285 | 55 | 276 | 54 | 285 | 55 | 276 | 54 | 285 | 55 | 285 | 55 | 258 | 50 | 285 | 55 |
| Khargone | 1.95 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CHANDRAPUR - 3 | 2.11 | 102 | 21 | 105 | 22 | 102 | 21 | 105 | 22 | 105 | 22 | 102 | 21 | 105 | 22 | 102 | 21 | 105 | 22 | 105 | 22 | 95 | 20 | 105 | 22 |
| CHANDRAPUR - 4 | 2.11 | 102 | 21 | 105 | 22 | 102 | 21 | 105 | 22 | 105 | 22 | 102 | 21 | 105 | 22 | 102 | 21 | 105 | 22 | 105 | 22 | 95 | 20 | 105 | 22 |
| CHANDRAPUR - 5 | 2.11 | 242 | 51 | 250 | 53 | 242 | 51 | 250 | 53 | 250 | 53 | 242 | 51 | 250 | 53 | 242 | 51 | 250 | 53 | 250 | 53 | 226 | 48 | 250 | 53 |
| CHANDRAPUR - 6 | 2.11 | 242 | 51 | 250 | 53 | 242 | 51 | 250 | 53 | 250 | 53 | 242 | 51 | 250 | 53 | 242 | 51 | 250 | 53 | 250 | 53 | 226 | 48 | 250 | 53 |
| CHANDRAPUR - 7 | 2.11 | 242 | 51 | 250 | 53 | 242 | 51 | 250 | 53 | 250 | 53 | 242 | 51 | 250 | 53 | 242 | 51 | 250 | 53 | 250 | 53 | 226 | 48 | 250 | 53 |
| Chandrapur 8 | 2.12 | 278 | 59 | 287 | 61 | 278 | 59 | 287 | 61 | 287 | 61 | 278 | 59 | 287 | 61 | 278 | 59 | 287 | 61 | 287 | 61 | 260 | 55 | 287 | 61 |
| Chandrapur 9 | 2.12 | 278 | 59 | 287 | 61 | 278 | 59 | 287 | 61 | 287 | 61 | 278 | 59 | 287 | 61 | 278 | 59 | 287 | 61 | 287 | 61 | 260 | 55 | 287 | 61 |
| GANDHAR | 2.15 | 62 | 13 | 64 | 14 | 62 | 13 | 64 | 14 | 64 | 14 | 62 | 13 | 64 | 14 | 62 | 13 | 64 | 14 | 64 | 14 | 58 | 12 | 64 | 14 |
| KHAPARKHEDA 5 | 2.24 | 278 | 62 | 287 | 64 | 278 | 62 | 287 | 64 | 287 | 64 | 278 | 62 | 287 | 64 | 278 | 62 | 287 | 64 | 287 | 64 | 260 | 58 | 287 | 64 |
| IPP - JSW | 2.32 | 163 | 38 | 169 | 39 | 163 | 38 | 169 | 39 | 169 | 39 | 163 | 38 | 169 | 39 | 163 | 38 | 169 | 39 | 169 | 39 | 152 | 35 | 169 | 39 |
| KAWAS | 2.28 | 63 | 14 | 65 | 15 | 63 | 14 | 65 | 15 | 65 | 15 | 63 | 14 | 65 | 15 | 63 | 14 | 65 | 15 | 65 | 15 | 59 | 13 | 65 | 15 |
| Koradi R U-8 | 2.36 | 367 | 87 | 379 | 90 | 367 | 87 | 379 | 90 | 379 | 90 | 367 | 87 | 379 | 90 | 367 | 87 | 379 | 90 | 379 | 90 | 343 | 81 | 379 | 90 |
| Koradi 9 | 2.36 | 367 | 87 | 379 | 90 | 367 | 87 | 379 | 90 | 379 | 90 | 367 | 87 | 379 | 90 | 367 | 87 | 379 | 90 | 379 | 90 | 343 | 81 | 379 | 90 |
| Koradi10 | 2.36 | 367 | 87 | 379 | 90 | 367 | 87 | 379 | 90 | 379 | 90 | 367 | 87 | 379 | 90 | 367 | 87 | 379 | 90 | 379 | 90 | 343 | 81 | 379 | 90 |
| Adani power 125 MW | 2.44 | 68 | 17 | 70 | 17 | 68 | 17 | 70 | 17 | 70 | 17 | 68 | 17 | 70 | 17 | 68 | 17 | 70 | 17 | 70 | 17 | 64 | 16 | 70 | 17 |
| Adani power 1200 MW | 2.44 | 653 | 160 | 675 | 165 | 653 | 160 | 526 | 128 | 483 | 118 | 653 | 160 | 675 | 165 | 653 | 160 | 675 | 165 | 675 | 165 | 610 | 149 | 675 | 165 |
| KhSTPS-II | 2.37 | 78 | 18 | 80 | 19 | 78 | 18 | - | - | - | - | 78 | 18 | 80 | 19 | 78 | 18 | 80 | 19 | 80 | 19 | 73 | 17 | 80 | 19 |
| Adani power 440mw | 2.50 | 240 | 60 | 248 | 62 | 240 | 60 | - | - | - | - | 181 | 45 | 248 | 62 | 240 | 60 | 248 | 62 | 248 | 62 | 224 | 56 | 248 | 62 |
| KORADI - 6 | 2.56 | 95 | 24 | 98 | 25 | 95 | 24 | - | - | - | - | - | - | 98 | 25 | 95 | 24 | 28 | 7 | 98 | 25 | 88 | 23 | 98 | 25 |
| KORADI - 7 | 2.56 | 95 | 24 | 98 | 25 | 95 | 24 | - | - | - | - | - | - | 98 | 25 | 95 | 24 | - | - | 98 | 25 | 88 | 23 | 98 | 25 |
| KHAPARKHEDA - 1to 4 | 2.62 | 370 | 97 | 288 | 75 | 179 | 47 | - | - | - | - | - | - | 43 | 11 | 286 | 75 | - | - | 194 | 51 | 390 | 102 | 432 | 113 |
| Mauda II | 2.60 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 141 | 37 | 156 | 40 |
| BHUSAWAL 4 | 2.77 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 260 | 72 | 13 | 4 |
| BHUSAWAL 5 | 2.77 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 75 | 21 | - | - |
| PARAS UNIT-3 | 2.79 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PARAS UNIT-4 | 2.79 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| NTPC solapur 2 | 2.72 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mauda I | 2.76 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Parli replacement U 8 | 2.97 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| BHUSAWAL - 3 | 3.09 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PARLI UNIT-6 | 3.11 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PARLI UNIT-7 | 3.11 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Rattanindia Amravati | 3.14 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PARLI -4 | 3.34 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PARLI -5 | 3.35 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| NTPC solapur | 3.24 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| NASHIK- 3,4 & 5 | 3.43 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | **10,322** | **2,471** | **10,557** | **2,521** | **10,100** | **2,405** | **9,441** | **2,199** | **9,391** | **2,185** | **9,605** | **2,260** | **10,272** | **2,436** | **10,225** | **2,442** | **10,060** | **2,371** | **10,480** | **2,494** | **10,267** | **2,495** | **10,952** | **2,634** |

The above table depicts projection of month-wise MoD stack based on approved variable charge for FY 2018-19. However, actual operation of MoD Stack shall be governed as per the ABT Order in Case No. 42 of 2006, the State Grid Code and amendments thereof. Accordingly, the actual MoD stack shall vary based on the energy charge inclusive of FAC, if any, of various generating stations.

| Generator Name | VC per unit (Rs/kWh) | Apr-19 | | May-19 | | Jun-19 | | Jul-19 | | Aug-19 | | Sep-19 | | Oct-19 | | Nov-19 | | Dec-19 | | Jan-20 | | Feb-20 | | Mar-20 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Energy (MU) | VC (Rs. Crore) | Energy (MU) | VC (Rs. Crore) | Energy (MU) | VC (Rs. Crore) | Energy (MU) | VC (Rs. Crore) | Energy (MU) | VC (Rs. Crore) | Energy (MU) | VC (Rs. Crore) | Energy (MU) | VC (Rs. Crore) | Energy (MU) | VC (Rs. Crore) | Energy (MU) | VC (Rs. Crore) | Energy (MU) | VC (Rs. Crore) | Energy (MU) | VC (Rs. Crore) | Energy (MU) | VC (Rs. Crore) |
| **Must Run Stations** | | | | | | | | | | | | | | | | | | | | | | | | | |
| KAPP | 2.62 | 84 | 22 | 87 | 23 | 84 | 22 | 87 | 23 | 87 | 23 | 84 | 22 | 87 | 23 | 84 | 22 | 87 | 23 | 87 | 23 | 81 | 21 | 87 | 23 |
| TAPP 1&2 | 1.19 | 88 | 10 | 91 | 11 | 88 | 10 | 91 | 11 | 91 | 11 | 88 | 10 | 91 | 11 | 88 | 10 | 91 | 11 | 91 | 11 | 85 | 10 | 91 | 11 |
| TAPP 3&4 | 3.24 | 248 | 80 | 256 | 83 | 248 | 80 | 256 | 83 | 256 | 83 | 248 | 80 | 256 | 83 | 248 | 80 | 256 | 83 | 256 | 83 | 240 | 78 | 256 | 83 |
| SSP | 2.05 | 93 | 19 | 96 | 20 | 93 | 19 | 96 | 20 | 96 | 20 | 93 | 19 | 96 | 20 | 93 | 19 | 96 | 20 | 96 | 20 | 90 | 18 | 96 | 20 |
| Pench | 2.05 | 10 | 2 | 11 | 2 | 10 | 2 | 11 | 2 | 11 | 2 | 10 | 2 | 11 | 2 | 10 | 2 | 11 | 2 | 11 | 2 | 10 | 2 | 11 | 2 |
| Dodson I | 1.42 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 |
| Dodson II | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | - |
| Renewable - Non- Solar | 5.24 | 1,235 | 647 | 1,263 | 662 | 1,209 | 634 | 1,129 | 591 | 1,122 | 588 | 1,148 | 602 | 1,229 | 644 | 1,223 | 641 | 1,203 | 631 | 1,255 | 658 | 1,230 | 645 | 1,311 | 687 |
| Renewable - Solar | 4.16 | 376 | 156 | 384 | 160 | 368 | 153 | 343 | 143 | 342 | 142 | 349 | 145 | 374 | 155 | 372 | 155 | 366 | 152 | 382 | 159 | 374 | 156 | 399 | 166 |
| Hydro | - | 313 | - | 324 | - | 313 | - | 324 | - | 324 | - | 313 | - | 324 | - | 313 | - | 324 | - | 324 | - | 303 | - | 324 | - |
| **Stations under MOD** | | | | | | | | | | | | | | | | | | | | | | | | | |
| GHATGHAR | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Lara | 0.93 | - | - | - | - | - | - | 124 | 12 | 124 | 12 | 120 | 11 | 124 | 12 | 120 | 11 | 124 | 12 | 124 | 12 | 116 | 11 | 124 | 12 |
| SIPAT TPS 1 | 1.21 | 324 | 39 | 335 | 40 | 324 | 39 | 335 | 40 | 335 | 40 | 324 | 39 | 335 | 40 | 324 | 39 | 335 | 40 | 335 | 40 | 313 | 38 | 335 | 40 |
| KSTPS III | 1.22 | 74 | 9 | 77 | 9 | 74 | 9 | 77 | 9 | 77 | 9 | 74 | 9 | 77 | 9 | 74 | 9 | 77 | 9 | 77 | 9 | 72 | 9 | 77 | 9 |
| SIPAT TPS 2 | 1.24 | 155 | 19 | 160 | 20 | 155 | 19 | 160 | 20 | 160 | 20 | 155 | 19 | 160 | 20 | 155 | 19 | 160 | 20 | 160 | 20 | 150 | 19 | 160 | 20 |
| KSTPS | 1.24 | 351 | 44 | 362 | 45 | 351 | 44 | 362 | 45 | 362 | 45 | 351 | 44 | 362 | 45 | 351 | 44 | 362 | 45 | 362 | 45 | 339 | 42 | 362 | 45 |
| Gadarwara | 1.32 | 26 | 3 | 27 | 4 | 26 | 3 | 27 | 4 | 27 | 4 | 26 | 3 | 27 | 4 | 26 | 3 | 27 | 4 | 27 | 4 | 25 | 3 | 27 | 4 |
| VSTP II | 1.40 | 188 | 26 | 194 | 27 | 188 | 26 | 194 | 27 | 194 | 27 | 188 | 26 | 194 | 27 | 188 | 26 | 194 | 27 | 194 | 27 | 182 | 26 | 194 | 27 |
| VSTP IV | 1.41 | 185 | 26 | 191 | 27 | 185 | 26 | 191 | 27 | 191 | 27 | 185 | 26 | 191 | 27 | 185 | 26 | 191 | 27 | 191 | 27 | 179 | 25 | 191 | 27 |
| VSTP III | 1.41 | 156 | 22 | 161 | 23 | 156 | 22 | 161 | 23 | 161 | 23 | 156 | 22 | 161 | 23 | 156 | 22 | 161 | 23 | 161 | 23 | 151 | 21 | 161 | 23 |
| VSTP V | 1.42 | 92 | 13 | 95 | 14 | 92 | 13 | 95 | 14 | 95 | 14 | 92 | 13 | 95 | 14 | 92 | 13 | 95 | 14 | 95 | 14 | 89 | 13 | 95 | 14 |
| VSTP I | 1.50 | 242 | 36 | 250 | 38 | 242 | 36 | 250 | 38 | 250 | 38 | 242 | 36 | 250 | 38 | 242 | 36 | 250 | 38 | 250 | 38 | 234 | 35 | 250 | 38 |
| Mundra UMPP | 1.63 | 420 | 68 | 434 | 71 | 420 | 68 | 434 | 71 | 434 | 71 | 420 | 68 | 434 | 71 | 420 | 68 | 434 | 71 | 434 | 71 | 406 | 66 | 434 | 71 |
| EMCO Power | 1.83 | 105 | 19 | 109 | 20 | 105 | 19 | 109 | 20 | 109 | 20 | 105 | 19 | 109 | 20 | 105 | 19 | 109 | 20 | 109 | 20 | 102 | 19 | 109 | 20 |
| Adani power 1320 MW | 1.91 | 719 | 137 | 743 | 142 | 719 | 137 | 743 | 142 | 743 | 142 | 719 | 137 | 743 | 142 | 719 | 137 | 743 | 142 | 743 | 142 | 695 | 133 | 743 | 142 |
| GTPS URAN | 1.94 | 276 | 54 | 285 | 55 | 276 | 54 | 285 | 55 | 285 | 55 | 276 | 54 | 285 | 55 | 276 | 54 | 285 | 55 | 285 | 55 | 267 | 52 | 285 | 55 |
| Khargone | 1.95 | 13 | 3 | 14 | 3 | 13 | 3 | 14 | 3 | 14 | 3 | 13 | 3 | 27 | 5 | 26 | 5 | 27 | 5 | 27 | 5 | - | - | - | - |
| CHANDRAPUR - 3 | 2.11 | 102 | 21 | 105 | 22 | 102 | 21 | 105 | 22 | 105 | 22 | 102 | 21 | 105 | 22 | 102 | 21 | 105 | 22 | 105 | 22 | 98 | 21 | 105 | 22 |
| CHANDRAPUR - 4 | 2.11 | 102 | 21 | 105 | 22 | 102 | 21 | 105 | 22 | 105 | 22 | 102 | 21 | 105 | 22 | 102 | 21 | 105 | 22 | 105 | 22 | 98 | 21 | 105 | 22 |
| CHANDRAPUR - 5 | 2.11 | 242 | 51 | 250 | 53 | 242 | 51 | 250 | 53 | 250 | 53 | 242 | 51 | 250 | 53 | 242 | 51 | 250 | 53 | 250 | 53 | 234 | 49 | 250 | 53 |
| CHANDRAPUR - 6 | 2.11 | 242 | 51 | 250 | 53 | 242 | 51 | 250 | 53 | 250 | 53 | 242 | 51 | 250 | 53 | 242 | 51 | 250 | 53 | 250 | 53 | 234 | 49 | 250 | 53 |
| CHANDRAPUR - 7 | 2.11 | 242 | 51 | 250 | 53 | 242 | 51 | 250 | 53 | 250 | 53 | 242 | 51 | 250 | 53 | 242 | 51 | 250 | 53 | 250 | 53 | 234 | 49 | 250 | 53 |
| Chandrapur 8 | 2.12 | 278 | 59 | 287 | 61 | 278 | 59 | 287 | 61 | 287 | 61 | 278 | 59 | 287 | 61 | 278 | 59 | 287 | 61 | 287 | 61 | 269 | 57 | 287 | 61 |
| Chandrapur 9 | 2.12 | 278 | 59 | 287 | 61 | 278 | 59 | 287 | 61 | 287 | 61 | 278 | 59 | 287 | 61 | 278 | 59 | 287 | 61 | 287 | 61 | 269 | 57 | 287 | 61 |
| GANDHAR | 2.15 | 62 | 13 | 64 | 14 | 62 | 13 | 64 | 14 | 64 | 14 | 62 | 13 | 64 | 14 | 62 | 13 | 64 | 14 | 64 | 14 | 60 | 13 | 64 | 14 |
| KHAPARKHEDA 5 | 2.24 | 278 | 62 | 287 | 64 | 278 | 62 | 287 | 64 | 287 | 64 | 278 | 62 | 287 | 64 | 278 | 62 | 287 | 64 | 287 | 64 | 269 | 60 | 287 | 64 |
| IPP - JSW | 2.32 | 163 | 38 | 169 | 39 | 163 | 38 | 169 | 39 | 169 | 39 | 163 | 38 | 169 | 39 | 163 | 38 | 169 | 39 | 169 | 39 | 158 | 37 | 169 | 39 |
| KAWAS | 2.28 | 63 | 14 | 65 | 15 | 63 | 14 | 65 | 15 | 65 | 15 | 63 | 14 | 65 | 15 | 63 | 14 | 65 | 15 | 65 | 15 | 61 | 14 | 65 | 15 |
| Koradi R U-8 | 2.36 | 367 | 87 | 379 | 90 | 367 | 87 | 379 | 90 | 379 | 90 | 367 | 87 | 379 | 90 | 367 | 87 | 379 | 90 | 379 | 90 | 355 | 84 | 379 | 90 |
| Koradi 9 | 2.36 | 367 | 87 | 379 | 90 | 367 | 87 | 379 | 90 | 379 | 90 | 367 | 87 | 379 | 90 | 367 | 87 | 379 | 90 | 379 | 90 | 355 | 84 | 379 | 90 |
| Koradi10 | 2.36 | 367 | 87 | 379 | 90 | 367 | 87 | 379 | 90 | 379 | 90 | 367 | 87 | 379 | 90 | 367 | 87 | 379 | 90 | 379 | 90 | 355 | 84 | 379 | 90 |
| Adani power 125 MW | 2.44 | 68 | 17 | 70 | 17 | 68 | 17 | 70 | 17 | 70 | 17 | 68 | 17 | 70 | 17 | 68 | 17 | 70 | 17 | 70 | 17 | 66 | 16 | 70 | 17 |
| Adani power 1200 MW | 2.44 | 653 | 160 | 675 | 165 | 653 | 160 | 449 | 110 | 405 | 99 | 653 | 160 | 675 | 165 | 653 | 160 | 675 | 165 | 675 | 165 | 632 | 154 | 675 | 165 |
| KhSTPS-II | 2.37 | 78 | 18 | 80 | 19 | 78 | 18 | - | - | - | - | 78 | 18 | 80 | 19 | 78 | 18 | 80 | 19 | 80 | 19 | 75 | 18 | 80 | 19 |
| KORADI - 6 | 2.47 | 95 | 23 | 98 | 24 | 95 | 23 | - | - | - | - | 95 | 23 | 98 | 24 | 95 | 23 | 98 | 24 | 98 | 24 | 92 | 23 | 98 | 24 |
| KORADI - 7 | 2.47 | 95 | 23 | 98 | 24 | 95 | 23 | - | - | - | - | 15 | 4 | 98 | 24 | 95 | 23 | 98 | 24 | 98 | 24 | 92 | 23 | 98 | 24 |
| Adani power 440mw | 2.50 | 240 | 60 | 248 | 62 | 240 | 60 | - | - | - | - | - | - | 215 | 54 | 240 | 60 | 26 | 7 | 248 | 62 | 232 | 58 | 248 | 62 |
| KHAPARKHEDA - 1to 4 | 2.63 | 418 | 110 | 353 | 93 | 246 | 65 | - | - | - | - | - | - | - | - | 213 | 56 | - | - | 157 | 41 | 404 | 106 | 432 | 113 |
| Mauda II | 2.60 | 13 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 146 | 38 | 156 | 40 |
| BHUSAWAL 4 | 2.77 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 29 | 8 | 5 | 1 |
| BHUSAWAL 5 | 2.77 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PARAS UNIT-3 | 2.79 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PARAS UNIT-4 | 2.79 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| NTPC solapur 2 | 2.72 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mauda I | 2.76 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Parli replacement U 8 | 2.97 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| BHUSAWAL - 3 | 3.10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PARLI UNIT-6 | 3.11 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PARLI UNIT-7 | 3.11 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Rattanindia Amravati | 3.14 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PARLI -4 | 3.35 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PARLI -5 | 3.35 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| NTPC solapur | 3.24 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| NASHIK- 3,4 & 5 | 3.44 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | 10,597 | 2,574 | 10,840 | 2,628 | 10,378 | 2,509 | 9,686 | 2,274 | 9,633 | 2,259 | 9,853 | 2,336 | 10,548 | 2,519 | 10,496 | 2,523 | 10,325 | 2,455 | 10,771 | 2,585 | 10,556 | 2,563 | 11,253 | 2,730 |

The above table depicts projection of month-wise MoD stack based on approved variable charge for FY 2019-20. However, actual operation of MoD Stack shall be governed as per the ABT Order in Case No. 42 of 2006, the State Grid Code and amendments thereof. Accordingly, the actual MoD stack shall vary based on the energy charge inclusive of FAC, if any, of various generating stations.

## Appendix – 1

**List of persons who attended the pre-admission discussion held on 23 March, 2018**

| Sr. No. | Name of the representative | Organisation |
|---|---|---|
| 1 | Shri. Satish Chavan | MSEDCL |
| 2 | Ms. Swati Vyavahare | MSEDCL |
| 3 | Shri. Mohd. Rafique Qureshi | MSEDCL |
| 4 | Shri. Ashok Pendse | Thane-Belapur Industries Association(Consumer Representative) |
| 5 | Ms. Ashwini Chitnis | Prayas (Energy Group) |
| 6 | Ms. Manabika Mondal | Prayas (Energy Group) |
| 7 | Shri. Ashish Chandarana | Vidharbha Industries Association |
| 8 | Shri. Anand Pole | Chamber of Marathwada Indutries and Agriculture |
| 9 | Shri. Hemant Kapadia | Individual |
| 10 | Shri. Ajit Pandit | Idam Infra |
| 11 | Shri. Krishnajith M. U. | Idam Infra |
| 12 | Shri. Bhagavatheeswaran Hariharan | Idam Infra |

## Appendix – II

**List of persons who attended the pre-admission discussion held on 23 March, 2018**

**(Enclosed separately)**