



**MEGHALAYA STATE ELECTRICITY REGULATORY  
COMMISSION (MSERC)**

**Tariff Order**

For?

**Annual Revenue Requirement &**

**Transmission Tariff**

For?

**FY 2015-16**

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## ABBREVIATIONS

ABT	Availability Based Tariff
A&G	Administration & General
ARR	Aggregate Revenue Requirement
ATPEL	Appellate Tribunal For Electricity
CAGR	Compound Annual Growth Rate
CD	Contract Demand
CERC	Central Electricity Regulatory Commission
CGS	Central Generating Stations
CoS	Cost of Supply
CPSU	Central Power Sector Undertakings
Cr	Crore
CWIP	Capital Work In Progress
DE	Debt Equity
EHT	Extra High Tension
NER	North Eastern Region
FAC	Fuel Adjustment Costs
FDR	Fixed Deposits Receipts
FY	Financial Year
GFA	Gross Fixed Assets
HP	Horse Power
HT	High Tension
KV	Kilo Volt
KVA	Kilo Volt Amps
KW	Kilo Watt
kWh	kilo Watt hour
LNG	Liquefied Natural Gas
LT	Low Tension
MVA	Million Volt Amps
MW	Mega Watt
PLR	Prime Lending Rate
RIMS	Regulatory Information and Management System
YoY	Year on Year
NAPAF	Normative Annual Plant Availability Factor
MePGCL	Meghalaya Power Generation Corporation Limited
MePDCL	Meghalaya Power Distribution Corporation Limited
MePTCL	Meghalaya Power Transmission Corporation Limited
CoD	Commercial Operation Date
MSERC	Meghalaya Electricity Regulatory Commission
SLDC	State Load Despatch Centre

**MEGHALAYA STATE ELECTRICITY REGULATORY COMMISSION**

**1<sup>st</sup> Floor (Front Block Left Wing), New Administrative Building**

**Lower Lachumiere, Shillong – 793001**

**East Kasi Hills District, Meghalaya**

In the matter of

Determination of Multiyear Aggregate Revenue Requirement (ARR) for FY 16 to FY 18 and  
Transmission Tariff for FY 2015-16 for Transmission of power in the State of Meghalaya.

**AND**

Meghalaya Power Transmission Corporation Limited

Petitioner

(herein after referred to as MePTCL)

**Coram**

Anand Kumar, Chairman

**ORDER**

Dated: 30th March, 2015

1. The Meghalaya Power Transmission Corporation Limited (herein after referred to as MePTCL) is deemed licensee in terms of section 14 of the Electricity Act 2003 (herein after referred to as Act), engaged in the business of transmission of electricity in the state of Meghalaya.
2. As per the directive of the Commission, the MePTCL has filed the Petition for determination of multiyear Aggregate Revenue Requirement (ARR) for control period FY 16 to FY 18 and Transmission Tariff for FY 2015-16.
3. In exercise of the powers vested under section 62(1) read with section 62(3) and section 64(3)(a) of the Electricity Act 2003 and MSERC/MT/Regulations, 2014 (herein after referred to as Tariff Regulations) and other enabling provisions in this behalf the Commission issues this order for approval of the ARR and determination of

Transmission Tariff for FY 2015-16 for Transmission of Electricity in the state of Meghalaya.

4. Tariff Regulations specify that the Transmission licensee shall file ARR and Tariff Petition in all aspects along with requisite fee as specified in Commission's fees, fines and charges regulations on or before 30th November of the preceding year. Accordingly the MePTCL has filed the ARR and Tariff Petition for the control period FY 2015-16 to FY 2017-18 on 22.12.2014.
5. Regulation 21 of the Tariff Regulations, 2014 provides for giving adequate opportunities to all stakeholders and general public for making suggestions/objections on the Tariff Petition as mandated under Section 64(3) of the Electricity Act 2003. Accordingly the Commission directed MEPTCL its order dated 2.1.15 to publish the MYT ARR for the control period FY 16 to 18 and Tariff Petition FY 2015-16 in an abridged form as public notice in news papers having wide circulation in the state inviting suggestions/objections on the Tariff Petition.
6. Accordingly MePTCL has published the Tariff Petition in the abridged form as public notice in various newspapers and the Tariff petition was also placed on the website of MePTCL. The last date of submission of suggestions/objections was fixed on 7.2.2015.
7. The Commission, to ensure transparency in the process of Tariff determination and for providing proper opportunity to all stakeholders and general public for making suggestions/objections on the Tariff petition and for convenience of the consumers and general public across the state, decided to hold the public hearing at the headquarters of the state. Accordingly the Commission held public hearing at Shillong on 9<sup>th</sup> March, 2015.
8. The proposal of MePTCL was also placed before the state advisory committee in its meeting held on 20.02.2015 and various aspects of the Petition were discussed by the committee. The Commission took the advice of the state advisory committee on the ARR and Tariff Petition of MePTCL for the control period FY 2015-16 to FY 2017-18 during the meeting of the committee.
9. The Commission took into consideration the facts presented by the MePTCL in its Petition and subsequent various filings, the suggestions/objections received from



stakeholders, consumer organizations, general public and State Advisory Committee and response of the MePTCL to those suggestions/objections.

10. The Commission taking into consideration all the facts which came up during the public hearing and meeting of the State Advisory Committee, has approved the Multiyear ARR for control period FY 2015-16 to FY 2017-18 and Transmission Tariff for FY 2015-16

11. The Commission has reviewed the directives issued in the earlier Tariff orders for FY 2010-11 to FY 2014-15 and noted that some of the directives are complied and some are partially attended. The Commission has dropped the directives complied with and the remaining directives are consolidated and fresh directives are added.

12. This order is in six chapters as detailed below:

Chapter 1: Introduction

Chapter 2: Summary of ARR & Tariff petition for FY 2015-16 to FY 2017-18

Chapter 3: Public hearing process

Chapter 4: Commissions Approach

Chapter 5: Analysis of Multiyear ARR for FY 16 to FY 18 and determination of transmission Tariff for FY 2015-16

Chapter 6: Open Access Changes

Chapter 7: Directives.

The MePDCL should ensure implementation of the order from the effective date after issuance of a public notice, in such a font size which is clearly visible in two daily newspapers having wide circulation in the state within a week and compliance of the same shall be submitted to the Commission by the MePTCL.

This order shall be effective from 1st April, 2015 and shall remain in force till 31st March, 2016 or till the next Tariff Order of the Commission.

(Anand Kumar)  
(Chairman)

## 1. Introduction

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### 1.1 Background

The Meghalaya Power Transmission Corporation Limited (hereafter referred to as MePTCL or Petitioner) has filed its Petition on 22.12.2014 under Section 62 of the Electricity Act 2003, read with Meghalaya State Electricity Regulatory Commission (MYT) Regulations, 2014 for determination of Aggregate Revenue Requirement and determination of Transmission Tariff for FY 2015-16.

The Commission has admitted the Petition on 02.01.2015.

### 1.2 Meghalaya Power Transmission Corporation Limited

The Government of Meghalaya unbundled and restructured the Meghalaya State Electricity Board with effect from 31st March, 2010 into the Generation, Transmission and Distribution businesses. The erstwhile Meghalaya State Electricity Board was unbundled into four successor entities, viz,

Generation: Meghalaya Power Generation Corporation Ltd (MePGCL)

Transmission: Meghalaya Power Transmission Corporation Ltd (MePTCL)

Distribution: Meghalaya Power Distribution Corporation Ltd (MePDCL)

Meghalaya Energy Corporation Limited (MeECL) a holding company.

The Government of Meghalaya issued further notification on 16th September, 2013 notifying the revised statement of assets and liabilities as on 1st April, 2010 to be vested in Meghalaya Energy Corporation Limited.

As per the said notification issued by the Government of Meghalaya a separate corporation "Meghalaya Power Transmission Corporation Limited" (MePTCL) was incorporated for undertaking Transmission Business.

### 1.3 Meghalaya State Electricity Regulatory Commission

Meghalaya State Electricity Regulatory Commission (herein after referred to as “MSERC” or the Commission) is an independent statutory body constituted under the provisions of the Electricity Regulatory Commission (ERC) Act, 1998, which was superseded by Electricity Act (EA), 2003. The Commission is vested with the authority of regulating the power sector in the State inter alia including determination of tariff for electricity consumers.

### 1.4 Admission of the Petition and Public hearing process

The MePTCL has submitted the current Petition for determination of Multiyear Aggregate Revenue Requirement (ARR) for control period FY 16 to FY 18 and determination of tariff for FY 2015-16. The Commission undertook the technical validation of the Petition and admitted the Petition on 02.01.2015.

In accordance with Section 64 of the Electricity Act, 2003, the Commission directed the MePTCL to publish the application in abridged form to ensure public participation. The public notice, inviting objections/suggestions from its stakeholders on the ARR Petition filed by it, was published in the following newspapers on the dates noted against each.

S.No	Name of paper	Language	Date of Publication
1	The Shillong Times	English	07.01.2015
2	U Mawphor	Khasi	07.01.2015
3	Chitylli	Jaintia	07.01.2015
4	Salantini Janera	Garos	07.01.2015

The Petitioner has also placed the public notice and the Petition on the website ([www.meecl.nic.in](http://www.meecl.nic.in)) for inviting objections and suggestions on its Petition. The interested parties/stakeholders were asked to fill their objections/suggestions on the Petition on or before 07.02.2015. MePTCL/ Commission received some objections/suggestions from Consumers/consumer organisations. The Commission

examined the objections/suggestions received and fixed the date for public hearing on MePTCL's petition to be held on 09.03.2015. Communication was also sent to the objectors to take part in the public hearing process for presenting their views in person before the Commission. The Public hearing was conducted at Commission's office in Shillong as scheduled. The Commission also held meeting with state Advisory committee on 20.02.2015, Proceeding of the meeting are given annexure I.

The names of consumers/consumer organisations those filed their objections and the objectors who participated in the public hearing for presenting their objections are given in the Annexure II.

A short note on the main issues raised by the objectors in the written submissions and also in the public hearing along with response of MePTCL and the Commission views on the response are briefly given in chapter-3.

## 2. Summary of Multi Year ARR and Tariff Petition for control period FY 16 to FY18

### 2.1 Aggregate Revenue Requirement (ARR) for Control Period FY 16 to FY 18

The Meghalaya Power Distribution Company Limited (MePTCL) has submitted the Petition on 22-12-2014 seeking approval for Aggregate Revenue Requirement for control period FY 16 to FY 18 and Determination of Transmission Tariff for FY 2015-16. The MePTCL has projected the revenue requirement for the control period as under:

**Table 2.1: Annual Transmission Charges**

(Rs. Cr)

Sl. No	Particulars	FY2014-15 (Estimated)	FY2015-16 (Projected)	FY2016-17 (Projected)	FY2017-18 (Projected)
1	Return on Equity (RoE)	44.31	51.71	57.32	59.25
2	Interest on Loan capital	10.23	31.49	43.35	47.35
3	Operation and Maintenance	71.58	77.68	80.22	83.04
4	Interest on Working Capital	4.97	6.16	7.21	7.88
5	Depreciation as may be allowed	18.72	23.70	31.46	37.05
6	Taxes on Income	-	-	-	-
7	Annual License Fee	0.03	0.03	0.03	0.03
8	SLDC Charges	0.86	1.31	1.66	1.86
9	Total Annual Expenditure	150.70	192.09	221.24	236.46
10	Less: SLDC ARR	1.72	2.62	3.32	3.73
11	Less: Other Income	6.24	6.24	6.24	6.24
	Net Annual Revenue	142.75	183.23	211.69	226.50

The applicant, humbly prays to the Hon'ble Commission to pass appropriate orders on the following:

- Approval of Business Plan for the Control Period of FY 2015-16 to FY 2017-18
- Approval of Net ARR amounting to **Rs. 183.23 Cr** for FY 2015-16 as proposed in this Petition.
- Approval of Net ARR amounting to **Rs. 211.69 Cr** for FY 2016-17 as proposed in this Petition.
- Approval of Net ARR amounting to **Rs. 226.50 Cr** for FY 2017-18 as proposed in this

Petition.

- To pass such orders, as Hon'ble Commission may deem fit and proper and necessary in view of the facts and circumstances of the case.
- To condone any inadvertent omissions, errors & shortcomings and permit the applicant to add/change/modify/alter this filing and make further submissions as required.

### 3. Summary of Objections, Response of MePTCL and Commission's Observation

The Commission has received only one objection of ARR and tariff proposal of MePTCL. In addition to this, the Commission has also received some suggestions from the members of the Advisory Committee. The Commission has also deliberated on the ARR in the public hearing. In this chapter the Commission is giving the details of the objections raised by industries association, members of the advisory committee and the responses of the transmission licensee.

#### Byrnihat Industries Association (BIA)

BIA has filed on 06.02.2015 its objection in respect of ARR of MePTCL which are being discussed below:

#### NO TRUING UP APPLICATION FILED

1. BIA has raised objection that MePTCL has not filed true up application as per the requirement of the regulations. FY 2015-16 is the first year of the control period and MePTCL ought to have filed the truing up petition till FY 2014-15 or at least till FY 2013-14 along with its accounts (provisional or final). While filing the petition for ARR and tariff for Financial Year 2015 - 16 onwards, MePTCL ought to place before the Commission the actual financials for FY 2014 - 15 which will enable the Commission to true up the financials of the year 2014 - 15 and assess correctly the revenue requirements of the year 2015 - 16 before proceeding to determine the revenue requirements and tariff for the year 2015 - 16.
2. As at present the actual figures / values of 2014 - 15 are known to MePTCL, and MePTCL should claim the revenue requirements based on the actuals of the previous years instead of at highly inflated, arbitrary, and estimated levels and with the sole objective of unduly increasing the revenue requirements and consequent tariff to be charged from the consumers.

3. BIA submitted that the consumers cannot bear any further increase in tariff and will have to shut down if such increase as sought by MePTCL is granted. In fact, the Commission ought to first true up the financials of MePTCL for all the previous years.

### OBJECTIONS TO BUSINESS PLAN

4. BIA submitted that the MePTCL has not given any meaningful plan as its business plan. MePTCL has merely dealt with and elaborated upon the power scenario in the country, which has no relevance to the business plan which needs to be provided by the Petitioner for the State of Meghalaya.

5. MePTCL in its petition has stated that it has added significant network assets in the past few years for sustainable growth. However, no details have been provided, nor have the Petitioner dealt with or provided the details of the benefit that has accrued to the consumers in the state of Meghalaya on account of the capacity addition by the Petitioner. On the other hand, the Petitioner has not only sought a high loss level of 5.51% for the transmission network but has also sought continuance of the same loss level for the MYT period without any reduction. This is when the Petitioner has sought substantial capital expenditure, which is absurd.

6. BIA submitted that the purpose of the business plan to be filed by the Petitioner was to enable a substantive plan on how the Petitioner proposes to conduct its business, ensure growth, secure and dependable system and sufficient capacity to cater to the requirements of the consumers in the state of Meghalaya. None of these details have been provided by the Petitioner.

7. MePTCL has also proposed most of the funding through subsidies and grants, however at the same time also claiming substantial interest and finance charges, depreciation etc. It is submitted that the well-settled principle of regulatory tariff determination is that there can be no servicing of the capital cost funded through loans and grants including depreciation, interest on loan, return on equity etc. can be provided. The Petitioner has not even sought to distinguish between the assets to be funded through equity and loans and those through loans and grants.

8. MePTCL has also sought a very high cost of about Rs. 28 crores for a boundary metering scheme, for which no details have been provided. In fact for one scheme for interface



metering for which the DPRs yet to be prepared, the Petitioner has claimed the cost of Rs. 21 crores, which is by no means reasonable. This is only the cost of providing meters, which is very high.

9. MePTCL has not given any cost benefit analysis of the future expenditures program, funding plan and the assets to be commissioned. In a regulatory setup, where only those costs and expenses which benefit the consumers at large can be passed on in the tariff, the Petitioner has not provided any details of the assets to be planned and commissioned, the funding details and the benefit to the consumers at large.
10. Finally BIA submitted that the Commission should require MePTCL to provide the full details of the business plan, the cost benefit analysis and ensure reasonability and prudence in the prospective plans.

## OBJECTIONS TO THE ANNUAL REVENUE REQUIREMENTS FOR THE MYT PERIOD

### GROSS FIXED ASSETS

11. MePTCL has sought for a very substantial increase in the Gross Fixed Assets by incurring capital expenditure. The opening Gross Fixed Assets as on 01/04/2013 of the Petitioner is only Rs. 63.37 crores. As against this, the Petitioner has sought for an addition of Rs. 159.10 crores for the year 2012–13 itself, taking the Gross Fixed Assets to Rs. 222.47 crores at the end of 2012–13. In fact, as per the filings made by the Petitioner, the Gross Fixed Assets is sought to be increased from Rs. 63.37 crores from 2012–13 to Rs. 768.27 crores by the year 2017–18 which is about 13 times. It is for this reason that the Petitioner has not given any details whatsoever of the actual implementation made by the Petitioner for the previous years, the actual Gross Fixed Assets which can be ascertained in the triung-up process, the benefits that accrued to the consumers at large and then seeking any increase in the Gross Fixed Assets.
12. The filings made by the Petitioner also do not clarify whether the increase in the Gross Fixed Assets is being sought after the asset commissioned or simply based on the fact that expenditure is likely to be incurred. The Gross Fixed Assets for the purposes of regulatory tariff determination can at all be considered only after the assets are

commissioned and then applying prudence take on such expenditure incurred and the assets commissioned.

13. BIA submitted that the Commission should not allow any increase in Gross Fixed Assets whatsoever till such time the Petitioner provides the details of the actual expenditure incurred in the past, the benefits passed on to the consumers at large and establishing the reasonableness of the expenditure incurred and the projections made for future expenditure to be incurred.

### RETURN ON EQUITY

14. MePTCL has claimed a total equity base for the year 2015-16 of Rs. 65.44 crores and with further addition of Rs. 146.35 crores has considered a total return on equity at the rate of 14% of Rs. 51.71 crores. It is submitted that the projections and the claims made by the Petitioner on this account are perverse and absurd. Firstly most of the funding for the Petitioner is from grants and contributions made and no actual equity is incurred by the Petitioner. BIA submitted that the question of allowing return on equity on such funding made through grants and contributions does not arise.

### INTEREST AND FINANCE CHARGES

15. Even with regard to the interest and finance charges on loan capital, the Petitioner has not even sought to justify or provide the details of the loans corresponding to the capital assets and capital expenditure incurred. It is not that merely because loans are taken by the Petitioner, the same is to be serviced in the form of interest and finance charges.
16. The interest and finance charges is allowed only on the loans taken for capital assets and shown to have been incurred corresponding to such assets. The Petitioner has not given any such details. In fact as per the format filed by the Petitioner, the loans are shown to be state government and central government loans. It is not clear as to which loans these correspond to and which capital assets do they relate to. There is also no repayment schedule shown for the central government loans, even though the interest at the rate of 8.65% is claimed against such loans. There is no clarity in the filings made

and it appears that the same is only to camouflage the grants and subsidies provided to be Petitioner as loans and seek interest and finance charges on the same.

17. BIA submitted that the investment plan filed by the Petitioner as a part of the petition itself shows no loans being taken and the funding only by way of capital subsidies in grants. There can be no question of servicing these grants and subsidies in the form of interest and finance charges. BIA submitted that there can be no question of the Petitioner being allowed interest and finance charges on loans, without the Petitioner justifying the source of funding, the nature of the loans taken, the repayment schedule, the interest rate that is applicable and the capital assets corresponding to which the loan has been taken and capital expenditure incurred.

#### OPERATION AND MAINTENANCE EXPENSES

18. BIA submitted that the filings made by the Petitioner on this account is also incorrect. Firstly, in terms of the MYT Regulations of the Hon'ble Commission, the Petitioner ought to file the norms for O&M expenses on the basis of circuit kilometres of transmission lines, transformation capacity and number of bays in substations for approval of the Hon'ble Commission. No such exercise has been undertaken by the Petitioner, which is contrary to the binding Regulations. In the absence of the above, there can be no claim made by the Petitioner for increase in the Operation and Maintenance Expenses. Further, even the estimates provided by Petitioner are perverse. With regard to the employees cost, the Petitioner has merely estimated the employees cost for the year 2014 – 15 at Rs. 41.58 crores with increases provided for each year. This is as against the employees cost details provided by the Petitioner itself for the year 2012-13 at Rs. 16.09 crores and for the year 2013 – 14 at Rs. 17.17 crores.
19. There is no justification whatsoever provided for increasing the employees cost manifold from Rs. 17.17 crores for the year 2013 – 14 to Rs. 41.58 crore for the year 2014 – 15.
20. Even with regard to repair and maintenance cost, the Petitioner has sought to claim a very substantial increase. This is particularly for the year 2015-16. As against the repair and maintenance cost of Rs. 3.24 crores for the year 2013-14, the Petitioner has

sought to claim the repair and maintenance cost of Rs. 7.07 crores for the year 2015-16, which is more than double. There is no justification for the same.

21. Even with regard to the administrative and general expenses, the increase sought by the Petitioner is phenomenal. As against the cost of Rs. 4.80 crores for the year 2012-13 as provided by the Petitioner itself, the Petitioner has sought to claim a sum of Rs. 26 crores for the year 2014-15, Rs. 26.78 crores for the year 2015 – 16 and even higher for the other years. The increased sought is about 6 times from the year 2012 – 13.

### DEPRECIATION

22. The claim for depreciation made by the Petitioner is very high and is perverse. The claim for depreciation is directly related to the capital expenditure allowed and also to the assets actually put into use by the Petitioner. Without any details of the same and without providing for the actuals for the previous period and filing a truing up petition, there is no justification for claiming any additional depreciation.

### TRANSMISSION LOSS

23. The loss levels claimed by the Petitioner for intrastate transmission system is at 5.51%. There is no justification for such high losses. Had the transmission level, the same ought to be much lower. Further, the Petitioner has not even provided for any loss reduction trajectory and has kept the loss levels at a constant level of 5.51%. This is when the Petitioner has claimed substantial additional capital expenditure and has in fact sought to increase the gross fixed assets by about 13 times from Rs. 63 crores to more than 700 crores.

### MePTCL Response

#### NO TRUING UP APPLICATION FILED

1. MePTCL responded vide its letter dated 25.02.2015 that the State Government vide its Notification dated 31.03.2012 amended the transfer schemes w.e.f. 01.04.2012. Accordingly, the accounts for FY 2012-13 will be segregated for each utility. The accounts of FY 2012-13 are being audited. After completion of accounts for FY 2012-13

MePTCL will undertake the process of accounts for FY 2013-14. Therefore, no true up of FY 2013-14 was submitted along with the MYT petition. However, MePTCL has submitted the actual figures of expenses and revenue for FY 2014-15 for the first nine months.

## OBJECTIONS TO BUSINESS PLAN

- MePTCL submitted that the application filed by them has been in accordance with MSERC (Multi Year Tariff) Regulations, 2014. MePTCL submitted that while making the business plan they have taken an overall view on the future projections along with the estimated works to be carried out in the future. MePTCL mentioned that keeping in view the power scenario of the country the transmission network is required to be expanded. MePTCL submitted that the revised capital expenditure and its funding for the entire control period has already been submitted to the Commission. Similarly, they have mentioned that the cost of replacement of metering includes the metering instruments of the same accuracy class of the meters.

## OBJECTIONS TO THE ANNUAL REVENUE REQUIREMENTS FOR THE MYT PERIOD

### GROSS FIXED ASSETS

- MePTCL claimed that BIA has wrongly mentioned the opening GFA at Rs.63.67 crores as on 01.04.2013 this pertains to opening value as on 01.04.2012. The capitalization expected during the year is based on completion of transmission work during the year and hence it is added in the GFA. The proposed transmission network will be for the benefit of the consumers and reduce the losses in the long run. MePTCL further submitted that increase in GFA is based on projected expenditure to be carried out and expected completion of work in a particular year. The capital expenditure projected is for the purpose of network augmentation and system strengthening which will in turn be beneficial to the consumer. Any change in the assets addition can be trued up in future.
- The projections made for capital expenditure shall be taken in the upcoming years to avoid overloading of the network. MePTCL submitted that projected capital expenditure should not be linked to the capital expenditure carried out in previous year.

## RETURN ON EQUITY

1. MePTCL submitted that the actual base and equity addition projected for the entire control period is in line with tariff regulations. MePTCL has considered either actual equity or 30% of the actual cost whichever is lower and projected return on equity. MePTCL has also not considered funding from grant or consumers contribution for projection return on equity.

## INTEREST ON LOAN

2. MePTCL has provided the funding system for the entire control period in the investment plant formats. The interest on loan projected by MePTCL is on the basis of funding pattern and the loans to be drawn from different financial institutions. MePTCL has claimed servicing of such loans to be drawn in future. MePTCL has submitted that the interest rate considered for loan is based on actual interest on that particular loan. MePTCL further submitted that revised formats which includes loan wise schedule of drawal and repayment for each year.
3. The interest rate considered for central government loans for FY 2012-13 is based on actual interest paid during previous years. The repayment is not considered during the control period since there is a moratorium period of three years. While claiming interest they have followed the regulations.

## O & M EXPENSES

4. MePTCL submitted that for proposing norms for O & M expenses certain information like circuit kms, transformation capacity, number of base, etc shall be required. Since segregation for the past is being done the finalization of O & M norms shall take some time.
5. MePTCL has submitted that due to typographical error the cost of leave encashment of the employees cost shall be revised from Rs.25 crores to Rs.0.25 crores. MePTCL submitted the revised employees cost as Rs.19.07 crores.
6. R & M expenditure is projected on higher side as compared to FY 2013-14 and FY 2014-15 due to additional one time liability of extensive repair of transmission lines which

were badly damaged due to floods in Garo Hills in FY 2014-15. The estimated cost for repairs due to flood is Rs.2.71 crores.

7. A&G expenses has been increased because of certain apportionment of O&M cost, depreciation and interest of the holding company into the A&G head. This has led to significant increase in A&G cost. This approach has been adopted for preparation of account in subsequent years.

## DEPRECIATION

8. Depreciation calculation is done as per the regulations for the entire control period. The asset wise depreciation rates has already been given in the formats of the petition.
9. The assets registers is planned to be undertaken after segregation of the accounts of MeECL and its subsidiaries.

## TRANSMISSION LOSSES

10. MePTCL submitted that based on the internal audit conducted by energy management cell the average transmission losses for the period November 2013 to October 2014 have been determined at the rate of 5.1%. MePTCL further submitted that after implementation of capital expenditure for metering, network augmentation and system strengthening they will be in position to determine the exact losses. Finally MePTCL has requested the Commission to allow the cost as submitted in the petition as it is legitimate.

## Advisory Committee meeting

11. The Commission has also consulted the members of advisory committee on 20.02.2015. The Commission explained the statutory requirements to be adhered by the licensees and generating companies. The Commission has explained the important issues relating with the ARRs for FY 2015-16 which have its bearing on the consumer's tariff. The Chairman invited suggestions with regard to present petition from the members. The Commission has also briefed the members about the filing of transmission, wheeling charges and cross subsidy surcharges by transmission and distribution licensees for 2015-16. The issues which were presented before the members are AT&C losses,

power availability in the State, business plan for next three years, status of investments in the State and commissioning of the projects. The Chairman has shown his concern on the present level of losses in the State which have bearing on the tariff of the consumers. It was deliberated in the meeting that the control on the losses is must and the Commission should not allow the licensee to go over and above the targets fixed by the Commission in its earlier orders. The Commission has also shown its concern that the licensee's statement of accounts after 2011-12 are still unaudited and the only accounts audited by statutory auditors at the moment is for FY 2011-12.

12. The Chairman invited suggestions from the participants on the ARR. Members of the advisory committee have invited Commission's attention on the extent of losses in the distribution system in the State and submitted to the Commission that the trajectory of losses fixed by the Commission in its earlier order should be adhered with. However, they have no objection to licensee's proposal for reducing the present losses by 0.5% each year. Members placed their views to incorporate voltage wise cost of supply so as to facilitate open access at different voltages.

13. Members have given their objections on the present status of the audited accounts in MeECL and suggested that the licensee should complete their accounts. Members of the advisory committee have shown their concern about the high employees cost and suggested that there should be improvement in the efficiency. Further, they required the Commission to direct the licensee to go for a study on present man power utilization, placement of correct man at correct place and standard normative. Members of the advisory committee has submitted that the Commission may allow licensees the reasonable employees cost and required MeECL to use its existing manpower efficiently without wasting money for imprudent expenditures.

## PUBLIC HEARING

14. The Commission held public hearing on 09.03.2015 after giving prior notices in the newspapers. During the hearing the Commission explained the salient features of the MYT and related issues to it. The Commission has shown his concern that the audited records are required to be filed for validations of the revenue and expenditures of MYT.



period. During the hearing MeECL the holding company submitted that the accounts for FY 2012-13 are completed and the State Government is in the process of publishing its transfer schemes for segregated entities very soon. The Commission required MeECL to submit the status of accounts and its audit including the Government Notification in this regard within a week's time.

15. During the hearing, Byrnihat Industries Association, has raised numbers of objections on the ARR of transmission. BIA objected to non filing of truing up petition for the period up to 2013-14. They expressed that without truing up of previous year it would not be reasonable to decide the ARR of MYT as per Commission's regulations. BIA objected and required the details of projections of additional capital expenditures in the control period and sought justification for adding very high amount of capital assets in the control period, they required the cost benefit analysis of additional assets to be added in the transmission system. BIA objected to allow the depreciation on the assets which are not completed so far but are projected in the ARR. They also demanded that assets created with grants or the portion of assets created out of grant should not be considered for any expenditure like depreciation, interest and equity. They had given decisions of APTEL in the matter of Power Grid that depreciation should not be allowed on assets created by grants.
16. BIA raised an objection on the interest part of the ARR and sought details of repayment schedule on the loans taken so far. Similarly, they have raised an objection for an O&M cost projected in the ARR. They sought an explanation for an increase of about more than two times in the employees cost. MeECL explained that by mistake and typographical error this was done. They have given clarification to the Commission that the employees cost is now reduced significantly. Similarly BIA required MeECL to meet the efficient norm related with employees number. Regarding R&M expenditures, BIA required MeECL to give its explanation for increase of about two times in the present expenditures.
17. MePTCL explained to the Commission that they have given point wise replies to the BIA objections and filed with the Commission. MePTCL explained their position with regard to audit of accounts, expenditures and capital expenditures.

18. On open access charges, BIA raised objection with regard to cross subsidy surcharges and its computation is required to be done as per National Tariff Policy formula. MePTCL requested the Commission to maintain the cross subsidy as per the actual cross subsidy between the subsidising and subsidised consumers.
19. BIA also opposed the level of transmission losses projected in the ARR @ of 5.5% and requested the Commission that it should be based on actual losses in the transmission network.
20. MePTCL explained that the losses are based on the energy accounting taken from the difference of input energy and output energy from the transmission substation to distribution system.
21. BIA suggested that there should be transmission charges to be charged on the basis of actual transaction and not on the basis of capacity. The Chairman explained the provision of regulations that charges of open access should be recovered as per the regulations on capacity, scheduling or actual transaction whichever is higher. The Commission required the licensee to recover the dues as per the Commission's regulations and charges as may be fixed from time to time.
22. MePTCL in its reply dated 16.03.2015 has furnished revised format for interest cost. MePTCL submitted that GFA furnished during FY 2013-14 are not in conformity with data furnished in Format-17 due to the inclusion of Assets directly obtained by respective Divisions in Table-13 as well as CWIP converted to Fixed Assets. Whereas in Format-17, it does not include the assets obtained by Divisions but only the capitalized Capital Work in Progress. As far as employees cost, the Board of Directors, MeECL have, in its meeting on 28th April, 2014 resolved to constitute a Pay Committee for Revision of Pay effective from 1st January 2015. As the matter is still under process, the Report shall be furnished when finalized. The projection is based on last two pay revisions and inputs received from the pay committee. Details of loans and their interest rate taken during 2011-12, has been submitted to the Commission for FY 2012-13 and 2013-14.

## COMMISSION OBSERVATIONS

23. The Commission has considered objections and suggestions raised by consumers and members of advisory committee by deciding the ARR and transmission tariff for FY 2015-16. In principle the Commission has agreed to the objections of the consumers regarding excessive losses, timely audit of accounts, complete energy audit and fixing normative O&M expenses. Accordingly, these issues raised by the consumers and the members of the advisory committee are dealt with at appropriate places in the present order.

## 4. Commissions' Approach

This Chapter shall deal with the approach adopted by the Commission while determining the transmission tariff for the State of Meghalaya for the year 2015-16. The Commission has notified MSERC (Multi Year Tariff) Regulations 2014 on 25.09.2014. These regulations are applicable for determination of tariff from 01.04.2015. These regulations shall be applicable to generating company MePGCL, transmission licensee MePTCL (including SLDC) and distribution licensee MePDCL. The truing up of previous year prior to the period of notification of these regulations shall be governed by MSERC (Terms and Conditions for Determination of Tariff) Regulations, 2011. The Commission has tried to adhere to its MYT Regulation for determination of ARR for the control period and the tariff for FY 2015-16. While deciding the ARR, the Commission has also kept in mind the provisions given in National Tariff Policy and Electricity Act 2003. The Commission has also tried to make a balance between the interest of users of transmission system and transmission utility. In the future power sector in the State and in the North Eastern Region is growing and therefore it would be reasonable to consider the action plan for next three years. However, while deciding the ARR in the control period the Commission is careful to allow such projects which are either initiated, started or sanctioned through some schemes. It is being done in order to protect the interest of common men. The Commission is also concerned that there is no power interruption because of fault in transmission system or due to capacity constraints. It is reported to the Commission that the balance sheet for the MeECL for FY 2012-13 is under audit and therefore the statement of account for transmission business has not been ready. Validation of expenses could not be done in the absence of audited records of transmission utility. However, Commission has carefully examined the actual expenses and revenue of the transmission utility. Accordingly, the Commission has validated the ARR on the basis of actual expenditure for current year 2014-15 for the nine months. The Commission shall validate all expenses and revenue records at the time of next tariff revision and truing up exercise. In this chapter, the Commission is dealing with the regulations prescribed in MSERC MYT Regulations 2014. The Regulations prescribes the following:

## General Guiding Principles

The multiyear tariff shall be based on the following elements for determination of ARR for the entire control period FY 2015-16, FY 2016-17 and FY 2017-18. The retail tariff shall be determined for FY 2015-16.

- (a) Business plan for the control period.
- (b) Forecasted ARR for the entire control period.
- (c) Truing up of previous years.

In accordance with regulations the generating company and licensees have filed their petitions for approval of business plan for the entire control period and tariff for the ensuing year.

## Business Plan

As per regulation 8, all utilities shall have to file a business plan for the control period of three financial years starting from 01.04.2015 to 31.03.2018. The regulation provides that the licensee shall file category wise sale, demand projection, power procurement plan, capital investment plans, financing plan and fiscal targets. It is also required that capital investment plan shall show separately ongoing projects that will spilled over into the control period and new projects (along with justifications) that will commence in the control period but may be completed within or beyond the control period. In accordance with regulation the Commission shall only consider those investment plans which will be provided with relevant technical and commercial details.

In accordance with the regulations the licensees and the generating company have filed business plans for FY 2015-16 up to FY 2017-18 projecting various existing and new projects. They have also filed the capital expenditure to be spent on these projects in the entire control period. In accordance with the regulation the Commission has taken the matter of capital expenditure on the ongoing projects and for the new projects separately. In the absence of audited accounts of FY 2012-13 and onwards and detailed project reports, its financial tie ups and approval from the appropriate authorities, the Commission is

considering only those investment plans which have already started up to the period FY 2014-15.

### Power Purchase

The regulation provides that distribution licensee shall project the power purchase requirement based on the merit order dispatch principles, RPO requirement under the regulations and DSM measures. The Commission in accordance with the regulation is considering the power purchase depending on the availability of state generating stations and central power station subject to entitlement. The Commission has considered the unfulfilled RPO of the previous year in accordance with the RPO regulations 2010 and RPO requirement for the control period in accordance with RPO regulation 2015.

### Specific Trajectory

Regulation 10 provides that the committee shall stipulate a trajectory for the variables which shall include O&M expenses, plant load factor, distribution losses and collection efficiency. In accordance with regulation the Commission is considering to set trajectory for entire control period on distribution losses, transmission losses, collection efficiency, availability factor in the tariff order.

### Truing Up

Regulation 11 provides for filing of truing up petition of previous years together with the audited accounts including audit report by C&AG. The scope of truing up shall be a comparison of the performance of the company with the approved ARR and revenue from tariff. The petition shall comprise of the following

- A comparison of audited performance of the applicant for the previous financial year with the approved forecast for such year subject to prudence check including past through of impact of uncontrollable factors.
- Review of compliance of directives issued by the Commission from time to time.
- Any other relevant factors.

The licensee has filed their true up petition for FY 2011-12 with the accounts audited by statutory auditor appointed by C&AG. However, the certificate from C&AG on the statement of accounts is still not filed by the licensee. The Commission is accordingly allowing the true up of FY 2011-12 subject to finalisation/corrections of the same, if required so, after receiving the audit report of C&AG.

## Financial Principles

### Capital Cost and Capital Structure

The capital cost shall include the actual expenditure on the date of commercial operation subject to prudence check. The cost of the project should be reasonable as per the efficient technology and any delay in execution of the project causing cost and time overrun may not be approved by the Commission. Similarly, the assets not put to use shall be excluded from the capital cost. Regulation 28 provides that capital cost of the existing and new projects shall not include any assets which have been created from any grant received from either Central or State Government which does not carry any liability of repayment for the purpose of computation of interest on loan, return on equity and depreciation. In accordance with the regulation the Commission has allowed the return on equity on the projects which are completed and do not carry assets created from grants where no repayment liability exists. The Commission has also considered measures which are necessary for good governance while allowing return on it. The investment made prior to and up to 31st March immediately preceding the date of the notification of these regulations shall be considered on the basis of audited accounts or approvals already granted by the Commission. In this proceeding the Commission has allowed the opening values of the assets as per the transfer schemes and allowed addition of assets for projects which has already taken up to 2014-15 after verifying the status of projects as per the information made available to the Commission. However, the Commission shall make suitable corrections as per the audited records as and when submitted.

### Additional Capitalization

Regulation 29 prescribes the additional expenditures within the original scope of work actually incurred after the date of commercial operation and up to the cutoff date may be admitted by the Commission subject to prudence check and issue of completion certificate.

### Debt Equity Ratio

Regulation 27 provides for debt equity ratio for projects which are declared under commercial operation. However, any grant obtained for execution of the project shall not be considered as a part of capital structure and equity should be determined accordingly. Regulation 27 also prescribes that for the purpose of determination of tariff, debt-equity ratio in the case of existing, ongoing as well as new projects commencing after the date of notification of these regulations shall be 70:30. Where equity employed is more than 30% of the capital cost the amount of equity for the purpose of tariff shall be limited to 30% and the balance shall be treated as loan. Where actual equity employed is less than 30% of the capital cost the actual equity employed shall be considered. The Commission may, in appropriate case, consider equity higher than 30% for the purpose of determination of tariff, where the transmission licensee is able to establish to the satisfaction of the Commission that deployment of equity more than 30% is in the interest of general public. The debt and equity amounts arrived at in accordance with regulations shall be used for calculating interest on loan and return on equity. In the absence of audited accounts for separate entity it would not be prudent to accept the size of the equity as claimed. Therefore, the Commission has considered the same return on equity as allowed to MeECL in previous year as a single entity to be distributed uniformly in three corporations i.e. Generation, Transmission and Distribution. The Commission has also taken a view that after segregation of MeECL, there are no independent financial transactions and there is apparently no change in the functioning of these Corporations as an independent entity. However, after finalisation of the accounts in lieu of transfer scheme the Commission will take a view for determining the legitimate entitlement of return on equity.



### Return on Equity:

Regulation prescribes that Return on equity shall be computed on the equity base determined in accordance with Regulation 31 and shall not exceed 14%. Provided that in case of projects commissioned on or after 1-4-2010, an additional return of 0.5% shall be allowed if such projects are completed within the time line specified in Appendix--- II of CERC (Terms and Conditions of Tariff) Regulations, 2009 (Refer Annexure-2)

- i. Provided that an additional return of 1.5% shall be allowed if such projects are completed within the original sanctioned project cost without any cost overrun.
- ii. Provided that equity invested in a foreign currency may be allowed a return up to the prescribed limit in the same currency and the payment on this account shall be made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

The equity amount appearing in the Balance Sheet as per Transfer scheme notification will be considered for the purpose of considering the return for the first year of operation.

The transfer scheme dated 31.03.2012 provides amendment to the original transfer scheme dated 2010 wherein it is mentioned that all assets and liabilities shall stand transferred from MeECL to MePTCL w.e.f. 01.04.2012. However, the transfer value of assets and liabilities shall be derived from the duly audited accounts of MePTCL and MeECL for the financial year 2011-12. Accordingly, at this stage when there is no separate account for MeECL/MePTCL in the absence of audited accounts, the Commission is unable to recognise the equity as projected in the petition. Therefore, the Commission is allowing the same return as allowed last year equally to each company segregated but of MeECL subject to correction if any required at the time of audited results.

### Interest and Finance Charges On Loan Capital

Regulation 32 provides that interest shall be computed on the outstanding loans after taking into account the schedule of loan repayment, terms and conditions of loan agreement and lending rates as defined therein. The regulation provides that no interest on finance charges shall be allowed on the projects which are not completed. The Commission has in accordance with regulation provided for repayment of loans for the projects which are

commissioned. As done in the previous year the Commission has not allowed the interest towards Government loans as per the proposal. The interest and finance charges attributable to Capital Work in Progress shall be excluded. The transmission licensee shall make every effort to swap loans as long as it results in net benefit to the beneficiaries. The costs associated with such swapping shall be borne by the beneficiaries. The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefit shared between the beneficiaries and the licensee in a ratio 50:50. MePTCL has claimed normative interest for loan capital in FY 2015-16 and the control period for transmission and SLDC. Since the Regulation provides the interest charges for outstanding loans, the Commission has considered repayment of loans to the extent of depreciation allowed and the interest has been worked out accordingly. However, MePTCL is free to file the petition for claiming the interest on loan actually availed in the control period. The Commission shall consider the same at the time of next filing or truing up.

### Depreciation

Regulation 33 prescribes that Depreciation expenses for the purpose of tariff determination, depreciation shall be computed in the following manner:

(a) The asset value for the purpose of depreciation shall be the capital cost of the assets as admitted by the Commission where:

The opening asset's value recorded in the Balance Sheet as per the Transfer Scheme Notification shall be deemed to have been approved, subject to such modifications as may be found necessary upon audit of the accounts, if such a Balance Sheet is not audited. Consumer contribution or capital subsidy/grant etc shall be excluded from the asset value for the purpose of depreciation.

(b) For new assets, the approved/accepted cost for the asset value shall include foreign currency funding converted to equivalent rupee at the exchange rate prevalent on the date of foreign currency actually availed but not later than the date of commercial operation.

(c) Depreciation shall be calculated annually as per straight-line at the rates specified in

Appendix – II of CERC (Terms and Conditions of Tariff) Regulations 2009 (Refer Annexure-II) of these regulations: Provided that and is not a depreciable asset and its cost shall be excluded from the capital cost while computing the capital cost of the asset. The salvage value of the asset shall be 10% and the depreciation shall be allowed up to a maximum of 90 % of the capital cost of the asset.

The Commission has tried to work out the assets in use on the basis of records submitted by the licensee and allowed depreciation on the completed assets only. This should be kept in a separate reserve for meeting future commitments and to be validated at the time of truing up.

### Interest on Working Capital

Regulation 34 provides calculation of interest on working capital for generation, transmission and distribution separately. For transmission licensee the working capital shall cover O & M expenses for one month, maintenance spare @ 1% of historical cost and receivable equivalent of two months of transmission charges. The rate of interest on working capital shall be SB advanced rate as on 01.04.2014. The Commission has followed the regulations.

### Operation and Maintenance Cost:

Regulation 69 prescribes a methodology of calculating O & M expenses which shall comprise of the following components:

- (a) Employee Cost
- (b) Repairs and Maintenance
- (c) Administration and General Expenses.

Regulation prescribes that The Licensee shall submit O & M expenses budget indicating the expenditure under each head of account showing actual of the last financial year, estimates for the current year and projections for the next financial year. The norms for O & M expenses on the basis of circuit kilometres of transmission lines, transformation capacity and number of bays in substations shall be submitted for approval of the Commission.

The Commission shall verify the budget estimates and projections and allow the expenditure depending on its views about the reasonableness of the projections. Increase in O&M expenses due to natural calamities or insurgency or other factors not within its control shall be considered by the Commission. In absence of normative set so far, the Commission is allowing actual cost of O&M in previous year subject to correction with inflation factors. However, the Commission directs MePTCL to propose the normative as required in the regulation at the time of next filing of ARR.

### Income Tax

Regulation 35 prescribes that Income Tax on the Licensed business of the Transmission Licensee shall be treated as expense and shall be recoverable from consumers through tariff. However, tax on any income other than that of its Licensed business shall not be a pass through, and it shall be payable by the Transmission Licensee itself. The income tax actually payable or paid shall be included in the ARR. Any under-recovery or over-recovery of tax on income shall be adjusted every year on the basis of income tax assessment under the Income-Tax Act 1961 as certified by the statutory auditor. Since there is no payment of Income Tax in 2014-15, the Commission is not allowing income tax in the ARR for 2015-16.

### Calculation of ARR:

Regulation 65 prescribes that Aggregate Revenue Requirement shall comprise of the following:

- (a) Return on Equity as may be allowed
- (b) Interest on Loan capital
- (c) Operation and Maintenance expenses
- (d) Interest on Working Capital
- (e) Depreciation as may be allowed
- (f) Taxes on Income
- (g) Annual License Fee

The net annual revenue requirement of a transmission licensee shall be worked out by adjusting the following in the annual revenue requirement computed under the regulations:

- a. Income from surcharge and additional surcharge from open access consumers if any;
- b. Transmission and / or wheeling charges recovered from open access customers, if any;
- c. Authorized portion of Income / Revenue from other business engaged in by the Licensee for optimum utilization of assets, if any.

### **Norms of Operation:**

Regulation 70 prescribes that the norms of operation for the transmission licensee, subject to modifications thereof from time to time shall be as under:

#### **(a) Auxiliary Energy Consumption in the Sub-Station.**

The cost of auxiliary consumption in the sub-station for the purpose of air-conditioning, lighting, and consumption in other equipment shall be borne by the transmission licensee and considered as part of Operation and Maintenance expenses under the head General and Administration Overhead.

#### **(b) Target Availability of the Transmission System for recovery of full transmission charges.**

The Normative Annual Transmission Availability Factor (NATAF) of the Transmission System shall be 98%. The Commission has allowed 98% as availability of transmission line.

### **Payment of transmission charges by customers**

Regulation prescribes that a transmission licensee shall be allowed to recover his net annual revenue requirement for financial year through transmission charges as one or combination of the following charges:

- a. Transmission charges which may consist of a fixed charge, demand charge and an energy charge or a combination of these;
- b. Connectivity charge, which shall be levied to meet the cost of connecting the customer to the licensee's transmission system;
- c. Parallel operation charge shall be levied for Captive Power Plant if the plant is connected with the grid.

(2) Transmission charges shall be calculated on a monthly basis.

(3) Transmission charges shall be recovered from distribution licensees and open access customers.

The Commission has allowed recovery of annual transmission charges from single distribution licensee in the State in 2015-16. The charges to be paid for use of transmission system by open access consumers shall be determined for 2015-16.

### Transmission losses

Regulation says that the Commission shall fix the norm for transmission losses based on the loss reduction plan provided by the licensee. The Commission shall make a periodical review of the reduction in transmission losses with reference to the norms fixed by it. In the case of failure to achieve the target for loss reduction, the Commission will not allow the excess over the norm as a pass through. Only Transmission Losses fixed as provided for in clause (1) above shall be debited to energy account of customers of the transmission system. The Commission find difficulty in allowing transmission losses without energy audit at all interconnecting points in intra-state transmission lines. The transmission losses at north east grid are more or less same as allowed last year. Accordingly, the Commission is allowing transmission losses as allowed last year subject to verification from SLDC. On the basis of actual records, provision of regulations, practices followed by this Commission in previous year, the Commission has determined the annual fixed charges for transmission licensee for FY 2015-16.

### Open access charges

The Commission has determined the open access as per Commission regulations for open access for FY 2015-16. The charges for open access need to be calculated as per regulations and no open access shall be permitted for defaulters.

## 5. Aggregate Revenue Requirement (ARR) for the control period FY 2015-16 to 2017-18 and determination of Tariff for FY 2015-16

### 5.1 Methodology for ARR of FY 2015-16 to FY 2017-18

In accordance with the provisions of the MYT Regulations, 2014, MePTCL submitted the ARR for control period FY 2015-16 to FY 2017-18 based on restructured segregated provisional accounts and the transfer scheme amended from time to time. MePTCL submits that, Transmission Service Agreement (TSA) for transmission of power to MePDCL has been executed on 08th August'13 and power under TSA is being supplied on cost plus basis. Therefore, MePTCL submits that the tariff for MePTCL be determined on cost plus basis. SLDC is a Strategic Business Unit (SBU) of MePTCL and does not maintain separate accounts. Therefore all assets, liabilities, expenditures etc. of SLDC are reflected in the accounts of MePTCL. However, SLDC being an independently functioning entity filed for separate ARR and tariff in accordance with the provisions of MSERC regulations and provisions of Electricity Act 2003. Therefore, in order to arrive at the tariff for MePTCL, the ARR of SLDC is deducted from total projected costs of MePTCL.

For computation of the Annual Revenue Requirement, Annual Fixed Cost for the transmission system needs to be calculated. The revenues from other sources such as surcharge from open access consumers, wheeling charges and other authorized income are required to be adjusted in the ARR. MePTCL has submitted the ARR petition under section 62 of the Act and Section 65 of MYT Regulations, 2014 for control period of FY 2015-16 to FY 2017-18.

### 5.2 ARR for Control Period of FY 2015-16 to FY 2017-18

Pursuant to Meghalaya Power Sector Reforms Transfer Scheme 2010 (as amended in 2012), the Assets and Liabilities including rights, obligations and contingencies are transferred to and vested in MePTCL from MeECL w.e.f. 1.4.2012. Transfer of Assets

and Liabilities to MePTCL is based on the provisional Accounts of MeECL for FY 2011-12. The segregated annual accounts post restructuring and unbundling for FY 2012-13 are being finalized. The accounts for the holding company and its subsidiaries have been segregated by appropriating the Assets, Properties, Liabilities, Expenditures, and Obligations etc. as attributable to the respective companies. The Assets and liabilities of individual functions i.e. Generation, Transmission and Distribution were maintained by erstwhile MeSEB and later MeECL, and appropriation of common items to respective companies is being done by taking relevant basis/ methodology.

### 5.3 Transmission Network details

MePTCL has a total transmission network of 226 Circuit Kilometers at 220 KV level and 991 Circuit Kilometers at 132 KV voltage level. Recently MePTCL has commissioned Misa-Killing 400 kV double circuit line and Single Circuit Agia- Nagalbibra line. The detail of the network is provided in Table below:

**Table 5.1: Details of Transmission Lines**

Transmission Line	Single Circuit		Double Circuit	
	No	Circuit KM	No	Circuit KM
400 KV	-	-	1	4.22
220 KV	-	-	1	226.82
132 KV	38	593.21	19	397.61

Further MePTCL has given the details of substations and capacity which are reproduced in the Table Below:

**Table 5.2: Details of Sub-stations**

Sub stations	No	Capacity (MVA)
400/220 KV	1	630
220/132 KV	3	520
132/33 KV	11	435
132/33/11 KV	1	10
132/11 KV	1	20



#### 5.4 Normative Annual Transmission Availability Factor:

The Regulation 70.3 of the MYT Regulations, 2014, provides the norms of operation of MePTCL. The relevant regulation is reproduced below for ready reference: Target Availability of the Transmission System for recovery of full transmission charges. The Normative Annual Transmission Availability Factor (NATAF) of the Transmission System shall be 98%. Based on the said regulation, the Normative Annual Transmission Availability Factor has been considered at 98%.

#### 5.5 Transmission Loss Trajectory

It is submitted that majority of transmission lines and grid substations of MePTCL are utilized for transmission within the state operate at 132 KV level and are very old. In spite of significant capacity addition in last few years, there is still a substantial need for replacement and upgradation of assets to achieve loss reduction. At the same time substantial network addition is also required to support load growth and to ensure quality and reliable transmission of power within the state. The present transmission network is overloaded and has deteriorated over time, which is the main cause for technical losses. Moreover, transmission at 132 KV network leads to higher line losses as compared to transmission at higher voltage levels. The inhospitable terrain and remote load centres also create hurdles in adequate maintenance of transmission network, leading to higher losses. Based on internal Energy Audit conducted by the Energy Management Cell the average Transmission Losses for the period of November' 13 to October' 14 have been determined to be 5.51%. Therefore MePTCL currently estimates the loss level for FY 2014-15 as 5.51% only.

As the metering of transmission network needs to be upgraded in accordance with applicable Regulations/ Guidelines, MePTCL has taken up a project for replacement of existing interface meters with ABT meters and establishment of Central Data Centre for monitoring and energy audit. As the currently installed meters are old and of lower accuracy class, it is difficult to identify the area-wise, network asset wise or

voltage level wise losses within the transmission system. Therefore MePTCL is currently not in a position to project the Transmission loss reduction trajectory during the first Control Period. MePTCL proposes that currently established level of losses be approved for the first Control Period, as highlighted in table below:

**Table 5.3: Transmission Loss Trajectory**

Particular	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
Transmission Loss (%)	5.51	5.51	5.51	5.51

MePTCL has embarked on a path of accelerated renovation, upgradation of network assets and assessment of loss reduction through various schemes which will aid in reduction of losses as well as reliable power supply. Details of these schemes have been provided in the Capital Investment section of Business Plan.

#### **Commission Analysis:**

The MePTCL has stated that the transmission loss at 5.51% is determined based on the energy audit conducted by the Energy management cell for the period from November 2013 to October 2013. The issue of high losses was raised in the hearing and MePTCL was directed by the Commission to send the detailed calculation. MePTCL vide its letter dated 16.03.2015 provided transmission losses from November 2013 to October 2014. The average losses in the calculations are 5.51%. However the Commission is not satisfied with the calculations and therefore at this stage without proper energy audit the present level of losses are continued to be allowed @ 5.51%. Since the level of losses in the transmission plays an important role while determining the open access charges, the Commission is directing the licensee to furnish complete report on it at the time of midterm review of the ARR in the remaining control period. In the next tariff application they will furnish the actual losses in 2014-15 and after that the Commission will set the trajectory.

**Thus the commission approves intra state transmission loss at 4% for the control period FY 16 to FY 18 as against 5.51% projected by MePTCL.**

## 5.6 Operation & Maintenance Expenses (O&M Expenses)

As per Regulation 69 of the MYT Regulations, 2014, the Operation and Maintenance Expenses is a sum of Employee Cost, Repairs and Maintenance (R & M) Expenses and Administrative and General (A & G) Expenses. The extract of the regulations is reproduced as follows:

### ***“69 Operation and Maintenance Expenses***

*Operation and Maintenance Expenses or O&M Expenses shall mean the total of all expenditure under the following heads:-*

- a. Employee Cost*
- b. Repairs and Maintenance*
- c. Administration and General Expenses.*

*The Licensee shall submit O&M expenses budget indicating the expenditure under each head of account showing actual of the last financial year, estimates for the current year and projections for the next financial year.*

*The norms for O&M expenses on the basis of circuit kilometers of transmission lines, transformation capacity and number of bays in substations shall be submitted for approval of the Commission.*

*The Commission shall verify the budget estimates and projections and allow the expenditure depending on its views about the reasonableness of the projections.* MYT & Business Plan Petition for FY 2015-16 to FY 2017-18

*Increase in O& M expenses due to natural calamities or insurgency or other factors not within its control may be approved by the Commission.”*

## 5.7 Employee Cost

### **Petitioner’s Submission**

It is submitted that before corporatization, Meghalaya State Electricity Board (MeSEB) used to revise pay scale of employees every 5 years. Further at the time of corporatization in the year 2010 the Management and Employees Association have mutually decided that the earlier trend of revision of pay will continue in future i.e. Management will revise pay scale of all the employees every 5 years. The last pay revision was made effective in the year 2010.

Therefore, from January 2015 onwards Revision of Pay will be made effective. The employee cost for the FY 2015-16 is projected by considering the revised pay of Employees. The following assumptions are considered to arrive at the revised pay of Employees:

- **Basic Pay:** As per the pay revision procedure, at the time of revision of pay, the new Basic Pay is arrived by adding the existing Dearness Allowance (DA) to existing Basic Pay and then adding the percentage increase in pay scale. In the last two pay revisions, there has been an increase of 12% in Basic Pay. Therefore it is expected that in the next pay revision too, there will be an increase of 12% in the Basic Pay. Moreover, on a yearly basis the permanent employees of MePTCL are given a nominal increment. Therefore, for FY 2015-16 the new Basic Pay is arrived at by the following methodology:

**New Basic Pay = Existing Basic Pay x ( 1+ DA Rate + 12%) + Yearly Increment**

- **Dearness Allowance (DA):** The DA projected to be applicable in the control period is shown in Table 4.4.
- **Housing Rent Allowance (HRA):** The HRA is paid as a percentage of Basic Pay and the percentage rate of HRA remains same throughout the effective period of revision of pay. At present HRA is as follows:
  - 15% of Basic for Shillong area
  - 12.5% of Basic for District Head Quarters
  - 10% of Basic for other areas

The above rates are further capped at a fixed amount. It is assumed that for that HRA will be 12% of Basic after pay revision

- **Other Allowance:** The other allowance includes Medical Allowance, Hill Allowance, Electricity Allowance, Winter Allowance etc. It is assumed that the other allowance will increase by 22% over the existing level.
- **Pension Payments:** With every pay revision the pension benefits are also increased in the same way as regular payments, i.e. The Basic Pension will be increased by taking the similar assumption as taken for Basic Pay.

Further, from FY 2016-17 onwards the employee cost is projected by the following assumptions:

- **Basic Pay is expected to grow at a nominal rate of 3% every year.**
- **Dearness Allowance** is projected by taking the following assumptions:

**Table 5.4: DA rates for the control period**

Financial Year	Period	DA as % of Basic	
FY 2015-16	1st Half of FY 16	0%	2% for FY 16
	2 <sup>nd</sup> Half of FY 16	4%	
FY 2016-17	1st Half of FY 17	8%	10% for FY 17
	2 <sup>nd</sup> Half of FY 17	12%	
FY 2016-17	1st Half of FY 18	16%	18% for FY 18
	2 <sup>nd</sup> Half of FY 18	20%	

- The other allowance is estimated to remain at the same level as FY 2015-16
- Terminal benefit provision for future years is not considered at present. The same will be claimed at the time of true-up as per the actual provisioning.
- The yearly recruitment of technical and non-technical staff is also considered for projection of cost. The yearly increase in number of Employees is shown in Format-2.

Based on above assumptions, Estimated Employee cost for FY 2014-15 and projected Employee Cost for Control period of FY 2015-16 to FY 2017-18 is shown in the Table 21 below and attached as Format 1.

Table 5.5: Employee Cost projected by MePTCL

(Rs. Cr)

S.No.	Particulars	FY2014-15 (Estimated)	FY2015-16 (Projected)	FY2016-17 (Projected)	FY2017-18 (Projected)
	Salaries & Allowances				
1	Basic Pay	8.95	15.39	16.32	17.28
2	Arrear Pay	0.98			
3	Dearness Allowance	4.40	0.29	1.56	2.97
4	House Rent Allowance	0.90	1.76	1.87	1.98
5	Other allowances	0.74	0.94	0.98	1.01
6	Medical Re-imbursement charges	0.25	0.25	0.25	0.25
7	Over Time Payment	0.08	0.08	0.08	0.08
8	Fixed Medical Allowance				
9	Generation Incentive				
10	Bonus				
	Sub-Total	16.30	18.72	21.05	23.58
	Terminal Benefits				
11	Leave Encashment	25.00*	25.00	25.00	25.00
12	Staff Welfare				
13	CPS	0.11	0.11	0.11	0.11
14	Workman Compensation				
15	Ex-gratia				
	Sub-Total	25.11	25.11	25.11	25.11
	Pension Payment				
16	Basic Pension				
17	Dearness Pension				
18	Dearness Allowance				
19	Any other expenses				
	Sub-Total	-	-	-	-
20	Total	41.40	43.82	46.15	48.69
21	Amount Capitalized	-	-	-	-
22	Net Amount	41.40	43.82	46.15	48.69
23	Add prior period expenses	0.17	-	-	-
	Grand Total	41.58	43.82	46.15	48.69

\*MePTCL in its additional submissions dated 25.2.15 submitted before the Commission that due to a typo error the leave encashment in the employees cost is .25 crore instead 25 crores. MePTCL has accordingly revised the employees cost in FY 2014-15 as 16.83 crores, 19.03 cr in 2015-16, Rs 21.40 cr in 2016-17 and Rs 23.94 crores in 2017-18. to kindly approve Employee Cost of Rs. 24.3.82 Cr, Rs. 24.6.15 Cr and Rs. 48.69 Cr respectively for FY 2015-16, FY 2016-17 and FY 2017-18.

Therefore as per revised statement of MePTCL following charges are proposed by them as the Employee's cost:

Sl. No.	Particulars	FY2014-15 (Estimated)	FY2015-16 (Projected)	FY2016-17 (Projected)	FY2017-18 (Projected)
	Employees cost	16.83	19.07	21.40	23.94

### Commission Analysis

The actual expenditure for employees cost is shown as Rs. 12.53 crores for first nine months in FY 2014-15. However, the licensee has mentioned that in the last quarter of the year the cost are much higher than the expenses in previous year. This information was given by licensee on 25.02.2015. The Commission has proportionately revised it for full financial year and it is coming around Rs. 16.71 crores in 2014-15. The estimations given by the licensee is also Rs. 16.83 crores. Therefore, the Commission is considering Rs. 16.83 crores in 2014-15. In the last tariff order the Commission has allowed them the employees cost of Rs. 36.27 crores which includes approximately Rs. 18 crores on account of MeECL. This also matches with their actuals. Accordingly, the Commission is allowing the licensee's proposal for employees cost at Rs. 16.83 crores to be escalated at the rate of 5.72% for future years.

**The Commission approves employee expenses at Rs. 17.8 Crore, Rs. 18.8 Crore and Rs. 19.9 Crore for FY 2015-16, FY 2016-17 and FY 2017-18 respectively as projected by the MePTCL.**

### 5.8 Repair & Maintenance (R & M) Expenses

Meghalaya, being a hilly terrain, demands comparatively more investment for maintaining the transmission network. Under these circumstances there is a genuine need for incurring repair & maintenance expenses to keep the current assets under satisfactory running condition. Further with new addition of assets, there is increased requirement of repair and maintenance expense. However, due to ongoing restructuring activities and revenue deficit faced by MeECL & its subsidiaries, MePTCL has not been able to take up R&M works in extremely planned manner. Therefore, the R&M Expense for the control period has been projected by considering inflation rate of 9% over the last 3 years (November 2011 to October 2014). The estimated R&M Expenses for FY 2014-15 and the projected R&M Expenses for the control period of FY 2015-16 to FY 2017-18 are shown in the table below and attached as Format 4.

**Table 5.6: R & M Expenses projected by MePTCL**

(Rs. Cr)					
S.No.	Particulars	FY2014-15 (Estimated)	FY2015-16 (Projected)	FY2016-17 (Projected)	FY2017-18 (Projected)
1	Plant & Machinery	1.80	1.96	2.14	2.33
2	Building	0.05	0.05	0.06	0.06
3	Hydraulic & Civil Works	-	-	-	-
4	Line Cable & Network	2.08	2.27	2.47	2.70
5	Vehicles	0.04	0.05	0.05	0.06
6	Furniture's & Fixtures	0.01	0.01	0.01	0.01
7	Office equipments	0.02	0.02	0.02	0.02
8	Operating Expense	0.01	2.72	0.01	0.02
9	Total	4.00	7.07	4.76	5.19
10	Add/deduct share of other (To be specified)	-	-	-	-



S.No.	Particulars	FY2014-15 (Estimated)	FY2015-16 (Projected)	FY2016-17 (Projected)	FY2017-18 (Projected)
11	Total expenses	4.00	7.07	4.76	5.19
12	Less Capitalized	-	-	-	-
13	Net expenses	4.00	7.07	4.76	5.19
14	Add prior period	-	-	-	-
15	Repair & Maintenance Expense	4.00	7.07	4.76	5.19

The sudden increase shown in R & M expense in the FY2015-16 is due to additional one time liability of extensive repairs of Transmission lines which were badly damaged due to floods in Garo Hills in FY2014-15. MePTCL submits before the Commission to kindly approve R & M Expense of Rs. 7.07 Cr, Rs. 4.76 Cr and Rs. 5.19 Cr respectively for FY 2015-16, FY 2016-17 and FY 2017-18 respectively.

### Commission Analysis

MePTCL vide its letter dated 16.02.2015 submitted before the Commission that R & M expenditure is Rs.1.40 crores in first nine months of 2014-15 which shall be more in full financial year. In the last tariff order the Commission has allowed them Rs.3.85 crores which seems to be reasonable and sufficient for R&M works. The Commission feels that R&M expenditure should be reasonable and sufficient for maintenance of network. In its additional information dated 16.02.2015 the licensee has informed that repair and maintenance expenses for FY2014-15 is projected on higher side because of one time additional liability of extensive repair of extension line which were badly damaged due to floods in Garo Hills. The estimated amount for this repair is Rs.2.71 crores. However, they have not included such expenses in future years. Under the circumstances explained by the MePTCL the additional R&M expenses of Rs.2.71 crores is accepted. Keeping the the allowed R&M expenses in 2014-15 and escalating it by 5.72% it will be Rs.4.1 crores in 2015-16. Accordingly, the Commission is allowing Rs.6.7 crores as the R&M expenses in the 2015-16. For future years the expenses are escalated by 5.72% on the expenses allowed last year.

The Commission approves R&M expenses at Rs. 6.7 Crore, Rs. 4.3 and Rs. 4.6 Crore for FY 2015-16, FY 2016-17 and FY 2017-18 respectively as projected by MePTCL

### 5.9 Administration and General (A & G) Expenses

The increase in A & G Expenses mainly depends upon the price inflation. As the A & G Expense is being projected for the control period as a whole, therefore A & G expense for the control period is projected by considering the average inflation rate of 3% over the last 3 year period (November 2011 to October 2014). Further, at the time of unbundling, MeECL and its subsidiaries i.e. MePGCL, MePTCL & MePDCL have mutually agreed to reimburse the expense of MeECL in the ratio of cost of respective corporations. The apportionment of MeECL expense has been added as part of A & G expense of MePGCL. MYT & Business Plan Petition for FY 2015-16 to FY 2017-18 MePTCL

The summarized A & G expense for FY 2014-15 and the control period is shown in the table below and details from FY 2012-13 onwards are attached as Format-5.

**Table 5.7: A & G Expenses projected by the MePTCL**

(Rs. Cr)					
Sl. No.	Particulars	FY2014-15 (Estimated)	FY2015-16 (Projected)	FY2016-17 (Projected)	FY2017-18 (Projected)
1	Rent, Rates & Taxes	0.01	0.01	0.01	0.01
2	Insurance	0.01	0.02	0.02	0.02
3	Telephone, Postage & Telegrams	0.05	0.05	0.05	0.06
4	Consultancy fees	-	-	-	-
5	Technical fees	-	-	-	-
6	Other professional charges	0.00	0.00	0.00	0.00
7	Conveyance & travel expenses	1.19	1.30	1.42	1.55
8	Electricity & water charges	-	-	-	-
9	Others	0.06	0.07	0.07	0.08
10	Freight	-	-	-	-

Sl. No.	Particulars	FY2014-15 (Estimated)	FY2015-16 (Projected)	FY2016-17 (Projected)	FY2017-18 (Projected)
11	Other material related expenses	0.02	0.02	0.02	0.02
12	Total Expenses	1.34	1.46	1.60	1.74
13	Less Capitalized	-	-	-	-
14	Net Expenses	1.34	1.46	1.60	1.74
15	Add prior period	0.18	0.19	0.21	0.23
16	Total expenses charged to revenue	1.52	1.66	1.81	1.97
17	Apportionment of MeECL expenses	24.48	25.12	27.50	27.19
18	Total expenses charged to revenue	26.00	26.78	29.31	29.16

MePTCL submits before the Hon'ble Commission to kindly approve A & G Expense of Rs. 26.78 Cr, Rs. 29.31 Cr and Rs. 29.16 Cr respectively for FY 2015-16, FY 2016-17 and FY 2017-18 respectively including apportionment of MeECL Expense.

#### **Commission's analysis**

The actual expenses on A & G in 2014-15 is shown as Rs. 1.12 crores in first nine months. The proportionate increase shall be Rs. 1.52 crores in full financial year. The Commission has allowed Rs. 2.52 crores in 2014-15. Escalating Rs. 1.52 crores by 5.72% it would be Rs. 1.61 crores in 2015-16 which is matching with the licensee's proposal of 2015-16. Accordingly, the Commission is allowing the expenses as proposed by the licensee's proposal of 2014-15 and escalated it @ 5.72% in future years. As far as appropriation of cost of MeECL, Commission has considered the records submitted by MeECL dated 12.02.2015. The cost of holding company was distributed in the ARRs of MePDCL, MePTCL and MePGCL in the A & G component and their proportion was 60% for MePDCL, 27% for MePTCL and 13% for MePGCL. If we consider MeECL in 2014-15 the cost of MePTCL include approx. Rs. 20 crores in A & G. In the present proposal the licensee has shown Rs. 24.48 as cost of MeECL in A & G. Accordingly, the

Commission has allowed Rs. 22.5 Crores as A&G cost for the control period in the same manner.

The Commission approves A&G expenses at Rs. 22.5 Crores, Rs. 23.90 Crores and Rs. 25.14 Crores for FY 2015-16, 2016-17 and FY 2017-18 respectively.

#### 5.10 Summary of Operation and Maintenance (O & M) Expenses

Summary of O&M expenses approved by the Commission for control period of FY 2015-16 to FY 2017-18 are furnished in the table below:

**Table 5.8: O&M expenses approved by the Commission for FY 16 to FY 18**

(Rs. Cr)				
Sl. No	Particulars	FY 2015-16	FY 2016-17	FY 2017-18
1	Employee Cost	17.8	18.8	19.9
2	R&M Expenses	6.7	4.3	4.6
3	A&G expenses	22.5	23.90	25.14
4	Total O&M Expenses	47.0	47.0	49.64

#### 5.11 Capital Investment Plan

The purpose of the Capital Investment Plan (CIP) MePTCL has provided a roadmap for planning and implementation of proposed capital investment during the control period of FY 2015-16 to FY 2017-18. The CIP has been prepared keeping in view various long term needs and areas for capital expenditure as highlighted below:

- Strengthening of Aging Network
- Evacuation of Power from upcoming generating stations
- Transmission Corridor development for new load centres.
- Increasing Transmission capacity for increased load
- Increased Quality and Reliability of Power Transmitted
- Appropriate Loading of Transmission Network
- Increased Control and Protection for Grid Stability
- Metering and Loss Assessment
- Loss Reduction
- Outage Reduction

CIP prepared by MePTCL includes the projects which were under implementation or commenced/expected to commence from FY 2012-13 to end of first control period i.e. FY 2017-18. As CIP includes schemes envisaged and to be implemented in future, Several assumptions have been taken to project the various attributes such as scope of work, funding pattern, funding sources, project cost, commencement/ completion dates and construction period etc. The assumptions have been taken considering historical inputs and anticipated project attributes. These attributes are expected to become clearer with preparation of Detailed Project Reports, Approval by concerned authority/ financial institution and commencement of execution. Similarly certain project attributes such as construction period, actual project cost, completion dates etc. for ongoing projects are also expected to change in future due to uncontrollable externalities. Therefore the project particulars are expected to change in future and shall be updated during subsequent filings of Business Plan, petitions and Mid-Term Review.

To finance the capital expenditure, MePTCL primarily depends on financial assistance provided by Government of Meghalaya and Government of India through various schemes as well as external aided funding by international institutions such as World Bank. Most of the funding is available/ expected to be available to MePTCL in the form of Grant. A small loan component is also expected to be provided by Government of Meghalaya. The details of funding and sources are available as Investment Plan Format.

The Capital Expenditure from FY 2012-13 to FY 2017-18 is provided as Investment Plan Format as per prescribed format of MSERC and summarized in the table below:

**Table 5.9: Summary of Projects from FY2012-13 to FY2017-18**

Schemes	Project Cost (Rs. Cr)	Funding Loan	Pattern Grant	(Rs. Cr) Equity
Construction/ Upgradation of Transmission lines	180	18		162
Construction/ Upgradation of Substations	105	24		81
System Protection, Control system, metering etc.	98	10		88
Scheme funded by Power System Development Fund	103		103	
NER Power System Improvement Project	599	30	569	
Ongoing/Completed Schemes				
Construction/ Upgradation of Transmission lines	162	16		146
Construction/ Upgradation of Substations	193	19		174
System Protection, Control system, metering	8	1		7
<b>Total</b>	<b>1447</b>	<b>118</b>	<b>671</b>	<b>658</b>

The details of various schemes are provided in following sections.

### 5.12 North East Region Power System Improvement Project (NERPSIP)

The Government of India (GoI) has formulated a plan for undertaking investments in Transmission & Distribution in North East Region (NER) to facilitate increased availability of power, improvement in service delivery and reduction of system losses. Presently, Six NER States (Assam, Manipur, Mizoram, Meghalaya, Tripura and Nagaland) are connected to transmission network at 132 KV and below. In order to reduce the gap between the requirement and availability of the intra-state transmission and distribution system, it was found necessary to provide 132 KV/

220KV connectivity to all these NER states for proper voltage management and loss reduction.

Implementation of this project will create a reliable State power grid and improve its connectivity to the upcoming load centres, and thus extend the benefits of the MePTCL grid connected power to all the consumers. The project includes capital investments for strengthening/ augmentation of the intra-state transmission and distribution network as well as capacity building across selected six North East states of Assam, Manipur, Mizoram, Meghalaya, Tripura and Nagaland. The North East Region Power System Improvement Project (NERPSIP) is a comprehensive scheme to be funded by World Bank and Government of India. The scheme comprises of development of Transmission, Sub-Transmission/ Distribution system upto 33 KV.

Within Meghalaya, the objective of scheme is to revitalize the power sector to achieve sustainable development in long term. The NERPSIP is expected to be undertaken through funding in three tranches. The works covered under Tranche are broadly highlighted in the following table:

**Table 5.10: NERPSIP Asset addition**

Sl. No	Work	Rating	Unit	Capacity Addition
1	Substations	132/33 KV	MVA	300
2	Substations	220/132 KV	MVA	760
3	Transmission lines	220 KV	CKm	244
4	Transmission lines	132 KV	CKm	172

The addition of new substations and construction of new lines is required for relieving the existing overloaded lines and substations catering to Shillong, Areas of Khasi Hills and Garo Hills districts. The added capacity is also required for catering to growing demand throughout the state.

Under the Tranche funding, the proposed project expenditure is Rs. 599 Crore, 50% of which is to be funded by Government of India in form of Grant to MePTCL. Balance 50% counterpart funding in form of loan shall be received by Government of India from World Bank. 10% of this World Bank loan shall be passed on to the Government of Meghalaya as Loan which will subsequently be passed on to MePTCL as State Government loan. Remaining 90% of World Bank Loan shall be passed on to the MePTCL as Grant from Government of India. Therefore, total 95% funds shall be received by MePTCL as Grant and balance 5% as Loan from State Government. The funding pattern for MePTCL is summarised as below:

**Table 5.11: NERPSIP funding pattern**

Particulars	State Government. Loan	Gol Grant
Funding (%)	5%	95%
Amount (Rs. Crore)	30	569

The project approval has been received from Expenditure Finance Committee (EFC), Cabinet Committee on Economic Affairs (CCEA). Tranche funding shall be utilized for first phase of construction which is expected to take 48 months. Construction is expected to begin in FY16 and shall be completed by FY19.

### 5.13 Power System Development Fund (PSDF)

The Government of India has approved a scheme for operationalisation of Power System Development Fund (PSDF) in year 2014. PSDF is a fund constituted under Central Electricity Regulatory Commission (Power System Development Fund) Regulations, 2014 to be utilized for the following purpose:

- Transmission Systems of strategic importance based on operational feedback by Load Despatch Centers for relieving congestion in inter-State transmission system (ISTS) and Intra-State Transmission Systems which are incidental to the ISTS.
- Installation of shunt capacitors, series compensators and other reactive energy generators for improvement voltage profile in the Grid. Installation of special protection schemes, pilot and demonstrative projects, standard protection



schemes and for setting right the discrepancies identified in the protection schemes and for setting right the discrepancies identified in the

- protection audits on regional basis.
- Renovation and Modernization (R&M) of transmission and distribution system for relieving congestion
- Any other scheme/project in furtherance of the above objectives such as technical studies and capacity building

Based on decision taken in the in NERPC forum, a third party audit on protection was carried out in 135 sub-stations and generating stations of NER at 132KV voltage level and above. The teams comprising of members from PGCIL, NEEPCO, NHPC, NERPC and NERLDC was formed. The protection audit of the sub-stations and generating stations in NER was completed in February 2013. The findings of the audit team were discussed in the Commercial Sub-Committee and Protection Sub Committee meetings of NERPC. Subsequently, the Ministry of Power directed for preparation of the Detail Project Report based on the recommendations of the protection audit team for rectifying the defects. The same was sent to CEA with the request for funding through PSDF or any other sources without any financial burden to the constituents.

In order to further its objectives of having enhanced grid stability, MePTCL plans to carry out Renovation and Upgradation of Protection & Control system with funding available through PSDF. For Meghalaya, the protection audit was carried out in 1 No. 400KV and 19 Nos. 132KV substations/generating stations. The scope of work includes the following:

- Modification in switching scheme
- Replacement of existing EM/static relays by numerical relays / bay control and protection units and substation automation system (SAS) and providing Time Stamping of Events (TSE), Disturbance Recording (DR) & Events Logging (EL).

- Replacement of old obsolete equipments (Circuit Breakers, Surge Arresters, Isolators, Earthing switches, CTs, PTs/CVTs and materials).
- Establishment of reliable communication link and providing carrier intertrip facility.
- Improvement in DC system and providing DG sets.
- Improving existing Earthing system.
- Providing required Fire fighting system.
- Providing modern diagnostic tools.
- Any other improvement required.

The 132/33KV transmission substations which are envisaged to be included for renovation and upgradation are at Mawlai, NEHU, NEIGRIHMS, Khliehriat, Lumshnong, Umiam, Cherrapunjee, Nongstoin, Mawphlang, Nangalbibra, Rongkhon, EPIP-I, EPIP-II and Killing.

The estimated cost for renovation and upgradation of these 14 substations is Rs. 102.52 Crore which is expected to be made available in form of 100% Grant from PSDF. The DPR is under preparation after which approval shall be sought from National Load Dispatch Centre (NLDC) and Central Electricity Authority (CEA).

### **Boundary Metering**

This is a consolidated scheme for replacement of meters and metering system at interface of Transmission Network with Generating stations and Distribution network along with establishment of a Central Data Centre. Meghalaya receives power from various sources such as state owned generating stations, Central Generating Stations (CGS), Bilateral Agreements etc. The transmission network of MePTCL is utilized by distribution utility MePDCL and Open Access users for both import and export of power. Therefore MePTCL has an interface with various entities such as state generating stations of MePGCL, Central Transmission Utility, Open

Access Users, Distribution utility MEPDCL and Extra High Tension consumers connected at 132 KV.

The power flowing into and outside the state is measured at various interfaces by the ABT meters. These interfaces are also known as boundary as they demarcate the network of MePTCL. In addition to this, the quantum of power flow inside the state through the intra state lines is recorded by energy meters installed at various grid substations, which are not Availability Based Tariff (ABT) compliant. Therefore, there is an urgent need to install ABT compliant meters at all boundary points at the switching stations and outgoing feeders inside the state for time block measurement of power from state owned generation to the Distribution utility.

The main objective of grid metering is much more than simply accounting for the received by a utility from the grid, and far more in an ABT regime. In ABT regime, the actual energy in time block frame is measured throughout the day and deviation from schedule is to be settled as per the Unscheduled Interchange (UI) rates, as notified by the Central Electricity Regulatory Commission from time to time. The financial impact of this deviation from schedule, if not accounted properly, might result into significant increase in cost or rate of input energy especially with the advent of Deviation Settlement Mechanism (DSM) under which the deviation charges are substantial. To manage commercial operation of the grid in a cost-effective manner, there is a need to know the real time power flow from/to different distribution circles, open access customers and other special category consumers.

In addition to above, determination of accurate transmission loss in the state transmission system which is very necessary for loss compensation by the open access customers as well for the Distribution utility. Moreover, MePTCL will be able to take corrective steps if necessary to bring down the loss to the acceptable limit. The ABT grid metering system needs to be an integrated metering system, where all meters need to act in synchronism to deliver the overall intended purpose. A

comprehensive ABT grid metering system (having integrated hardware and software) together with the capability of giving adequate and sufficient information for load management on an interval-wise/daily/weekly/monthly basis is hence needed for the on-line measurement and management of any deviations from schedule (UI management) for MeECL as a whole. The overall scope covers establishment of a Central Data Centre (CDC) together with operations and maintenance support and generating the daily and monthly DSM accounting reports. The overall scope covers establishment of a Central Data Centre (CDC) together with operations and maintenance support and generating the daily and monthly DSM accounting reports.

The broad scope of the works as highlighted as below:

- Establishment of central data centre
- Installation of ABT complaint meters
- Installation of Communication media
- Installation of Terminal equipments

Work wise/Year wise investment plan is furnished in Annexure 1. Abstract of capital investment is furnished in Table below

**Table 5.12: Work in Progress**

(Rs. Lakhs)							
Sl. No	Particulars	FY2012-13 (Provisional)	FY2013-14 (Provisional)	FY2014-15 (Estimated)	FY2015-16 (Projected)	FY2016-17 (Projected)	FY2017-18 (Projected)
1	Opening balance	22,466.18	11,943.98	7,720.72	8,247.39	13,045.49	34,859.49
2	Add: New investments	5,170.50	9,590.92	5,674.00	22,432.00	35,157.00	28,791.00
3	Total	27,636.68	21,534.90	13,394.72	30,679.39	48,202.49	63,650.49
4	Less: investment capitalised	15,692.70	13,814.18	5,147.33	17,633.90	13,343.00	4,598.00
5	Closing balance	11,943.98	7,720.72	8,247.39	13,045.49	34,859.49	59,052.49

### Commission Analysis

The MYT framework shall be based on the aggregate revenue requirement relating to a detailed business plan submitted by the applicant for the control period. The regulation requires that the exercise of approval of business plan for the entire control period shall be based on the petition filed by licensees three months prior to filing of petition for ARR and tariff. The business plan shall consist of capital investment plans for the ongoing projects and new projects to be taken up in the control period. The Commission shall consider and approve the capital investment if it is technically and commercially sound. For the business plan it is necessary to file sale, demand projections, power procurement plans, capital investment plans, their financing plans, fiscal targets and approval of the appropriate authorities in accordance with guidelines as may be provided by the Commission. In the absence of audited accounts, detailed projects reports, agreements for financial tie ups, sanctioned of appropriate authority, it would not be reasonable to approve investments for the control period. Therefore, the Commission has considered the investment plan formats submitted by the licensee along with the Affidavit vide its letter dated 10.02.2015 and allows those projects which have been started up to March 2015. On the basis of this information the Commission has worked out the opening and closing values of assets including the assets added during each financial year starting from FY 2012-13. However, adjustments after detailed scrutiny shall be considered by the Commission as and when audited records shall be filed. It is to clarify that during these proceedings the approval of business plan cannot be undertaken within such short period and with limited information available to the Commission. Therefore, Commission requires the licensee MePTCL to file a petition for approval of business plan for the financial year FY 2015-16 (review), 2016-17 and 2017-18 in accordance with the regulations by 30.08.2015. The working of addition of assets are being given in the table below:

Sl No	Name of the schemes	Year of start	Capital expenditure (Rs. Cr)	Year of completion
1	132 KV line Nangalbibra to Agia	2007	43.32	FY 2013-14
2	Lilo of 132 KV Mawlai-Nongstoin line	2011	4.94	FY 2011-12
3	Lilo of 400 KV Palatana at Killing	2011	12.7	FY 2014-15
4	Lilo of 132 KV Nangalbibra at Mendipathar	2009	5	FY 2013-14
5	132 KV Rongkhon substation to Ampati	2009	16.75	FY 2015-16
6	Lilo of 132 KV Mawlai-Cherra	2010	4.97	FY 2015-16
7	Lilo of 132 KV NEHU Khliehriat at Mastem	2012	4.34	FY 2014-15
8	Lilo of 132 KV NEIGHRIMS Khliehriat line at Nongkrem	2012	5.55	FY 2015-16
9	132 KV line from new Umtru to EPIP	2012	5.2	FY 2015-16
10	132 KV line from new Umtru to old Umtru	2012	2.46	FY 2015-16
11	132 KV 3 circuit line at EPIP 1 & 2	2010	21.74	FY 2014-15
12	2nd Circuit of 132 KV Agia- Nangalbibra lines	2012	21.19	FY 2014-15
13	Lilo of 132 KV Rongkhon-Ampati line	2014	14.39	FY 2016-17
14	400 KV Killing Substation	2011	100.9	FY 2012-13
15	220 KV ICT at Agia	2011	11.43	FY 2013-14
16	132 KV transformer Ampati Substation	2011	14.04	FY 2015-16
17	132 KV transformer at Mendipather	2010	9.56	FY 2014-15
18	132 KV transformer at Mawstem	2009	22.17	FY 2014-15
19	132 KV transformer at Nongkrem	2012	24.31	FY 2015-16

SI No	Name of the schemes	Year of start	Capital expenditure (Rs. Cr)	Year of completion
20	132 KV transformer at Praharinagar	2012	18.91	FY 2016-17
21	Augumentation of Rongkhon substation	2010	4.69	FY 2015-16
22	Installation of DAS	2010	3.95	FY 2014-15
23	Replacement of meters at NEHU	2013	3.66	FY 2014-15

#### 5.14 Gross Fixed Assets

MePTCL has furnished the opening balance of GFA as on 1.4.2013 at Rs. 63.37 Cr. and worked out closing GFA considering year wise actual capitalization from FY 2012-13 to FY 2017-18 as detailed in Table below.

**Table 5.13: Gross Fixed Asset Details**

(Rs. Cr)

Particulars	FY2012-13 (Provisional)	FY2013-14 (Provisional)	FY2014-15 (Estimated)	FY2015-16 (Projected)	FY2016-17 (Projected)	FY2017-18 (Projected)
Opening GFA	63.37	222.47	361.05	412.52	588.86	722.29
Additions during the year	159.10	138.58	51.47	176.34	133.43	45.98
Retirements during the year	-	-	-	-	-	-
Closing GFA	222.47	361.05	412.52	588.86	722.29	768.27

MePTCL has requested the Commission to kindly approve the GFA as submitted in the table above.

#### Commission analysis

As discussed above, the assets were examined and those assets which are commissioned by March 2015 being considered for approving the depreciation charges for the control period subject to modification on submission of audited records. The details are given below in the Table:

**Table 5.14 MePTCL – GFA Considered**

**(Rs. Cr)**

Items	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
Opening GFA	63.37	164.27	224.02	323.33	401.3	434.6
Addition during the year	100.9	59.75	99.31	77.97	33.3	-
Retirement during the year	0	0	0	0	0	0
Closing GFA	164.27	224.02	323.33	401.3	434.6	434.6

On examination of the records the Commission has allowed increase in assets values for the purpose of calculating depreciation which are given above.

#### **5.15 Depreciation for the Control Period**

The MePTCL has furnished the Depreciation computed as per Regulation 33 of the MYT Regulations, 2014. The depreciation is projected based on the estimated completion of ongoing and upcoming projects during the control period as detailed in the tables below. The computation of depreciation is shown in the table below and attached as Format-6.



Table 5.15: Value of Assets and Depreciation- FY2012-13

(Rs. Cr)

Sl. No.	Name of the Asset	Value of Assets at the beginning of the year	Additions during the year	Withdrawn during the year	Value of Assets at the close of year	Rate of Depreciation (%)	Depreciation charges for the year
1	2	3	4	5	6	7	8
1	Land	1.27	0.03	-	1.30	0.00%	-
2	Buildings	6.18	0.06	-	6.24	3.34%	0.20
3	Hydraulic works	-	-	-	-	5.28%	-
4	Other Civil works	0.46	5.14	-	5.60	3.34%	0.34
5	Plant & Machinery	11.33	52.13	-	63.46	5.81%	3.30
6	Lines & Cables	43.66	101.56	-	145.22	5.28%	10.74
7	Vehicles	0.03	-	-	0.03	9.50%	-
8	Furniture	0.18	0.16	-	0.34	6.33%	0.02
9	Office equipment	0.26	0.02	-	0.28	6.33%	0.02
10	IT Equipment						
	Total	63.37	159.10	-	222.47		14.62
Value of Assets and Depreciation- FY2013-14							
1	Land	1.30	0.32	-	1.62	0.00%	-
2	Buildings	6.24	2.68	-	8.92	3.34%	0.29
3	Hydraulic works	-	-	-	-	5.28%	-
4	Other Civil works	5.60	-	-	5.60	3.34%	0.19
5	Plant & Machinery	63.46	72.07	-	135.53	5.81%	6.92
6	Lines & Cables	145.22	63.45	-	208.67	5.28%	10.59
7	Vehicles	0.03	-	-	0.03	9.50%	-
8	Furniture	0.34	0.04	-	0.38	6.33%	0.02
9	Office equipment	0.28	0.02	-	0.30	6.33%	0.02
10	IT Equipment						

**MePTCL –Tariff Order for Control Period FY 2015-16 to FY 2017-18**

Sl. No.	Name of the Asset	Value of Assets at the beginning of the year	Additions during the year	Withdrawn during the year	Value of Assets at the close of year	Rate of Depreciation (%)	Depreciation charges for the year
1	2	3	4	5	6	7	8
	Total	222.47	138.58	-	361.05		18.03
<b>Value of Assets and Depreciation- FY2014-15</b>							
1	Land	1.62	3.90	-	5.52	0.00%	-
2	Buildings	8.92	2.33	-	11.25	3.34%	0.30
3	Hydraulic works	-	-	-	-	5.28%	-
4	Other Civil works	5.60	7.83	-	13.43	3.34%	0.29
5	Plant & Machinery	135.53	18.84	-	154.37	5.81%	7.57
6	Lines & Cables	208.67	14.94	-	223.61	5.28%	10.27
7	Vehicles	0.03	-	-	0.03	9.50%	0.00
8	Furniture	0.38	-	-	0.38	6.33%	0.02
9	Office equipment	0.30	-	-	0.30	6.33%	0.02
10	IT Equipment	-	3.64	-	3.64	15.00%	0.25
	Total	361.05	51.47	-	412.52		18.72
<b>Value of Assets and Depreciation- FY2015-16</b>							
1	Land	5.52	14.44	-	19.96	0.00%	-
2	Buildings	11.25	8.24	-	19.49	3.34%	0.46
3	Hydraulic works	-	-	-	-	5.28%	-
4	Other Civil works	13.43	26.82	-	40.25	3.34%	0.81
5	Plant & Machinery	154.37	57.71	-	212.07	5.81%	9.57
6	Lines & Cables	223.61	67.72	-	291.33	5.28%	12.24
7	Vehicles	0.03	-	-	0.03	9.50%	0.00
8	Furniture	0.38	-	-	0.38	6.33%	0.02
9	Office equipment	0.30	-	-	0.30	6.33%	0.02
10	IT Equipment	3.64	1.41	-	5.05	15.00%	0.59
	Total	412.52	176.34	-	588.86		23.70

**MePTCL –Tariff Order for Control Period FY 2015-16 to FY 2017-18**

Sl. No.	Name of the Asset	Value of Assets at the beginning of the year	Additions during the year	Withdrawn during the year	Value of Assets at the close of year	Rate of Depreciation (%)	Depreciation charges for the year
1	2	3	4	5	6	7	8
<b>Value of Assets and Depreciation- FY2016-17</b>							
1	Land	19.96	3.28	-	23.23	0.00%	-
2	Buildings	19.49	1.89	-	21.38	3.34%	0.61
3	Hydraulic works	-	-	-	-	5.28%	-
4	Other Civil works	40.25	15.57	-	55.82	3.34%	1.44
5	Plant & Machinery	212.07	56.25	-	268.32	5.81%	12.55
6	Lines & Cables	291.33	34.85	-	326.18	5.28%	14.67
7	Vehicles	0.03	-	-	0.03	9.50%	0.00
8	Furniture	0.38	-	-	0.38	6.33%	0.02
9	Office equipment	0.30	-	-	0.30	6.33%	0.02
10	IT Equipment	5.05	21.60	-	26.65	15.00%	2.14
	<b>Total</b>	<b>588.86</b>	<b>133.43</b>	<b>-</b>	<b>722.29</b>		<b>31.46</b>
<b>Value of Assets and Depreciation- FY2017-18</b>							
1	Land	23.23	-	-	23.23	0.00%	-
2	Buildings	21.38	-	-	21.38	3.34%	0.64
3	Hydraulic works	-	-	-	-	5.28%	-
4	Other Civil works	55.82	3.60	-	59.42	3.34%	1.73
5	Plant & Machinery	268.32	32.40	-	300.72	5.81%	14.86
6	Lines & Cables	326.18	-	-	326.18	5.28%	15.50
7	Vehicles	0.03	-	-	0.03	9.50%	0.00
8	Furniture	0.38	-	-	0.38	6.33%	0.02
9	Office equipment	0.30	-	-	0.30	6.33%	0.02
10	IT Equipment	26.65	9.98	-	36.63	15.00%	4.27
	<b>Total</b>	<b>722.29</b>	<b>45.98</b>	<b>-</b>	<b>768.27</b>		<b>37.05</b>

The abstract of depreciation is furnished in table below:

**Table 5.16: Depreciation projected by MePTCL**

(Rs. Cr)					
Sl.No.	Particulars	FY2014-15 (Estimated)	FY2015-16 (Projected)	FY2016-17 (Projected)	FY2017-18 (Projected)
1	Land	-	-	-	-
2	Buildings	0.30	0.46	0.61	0.64
3	Hydraulic works	-	-	-	-
4	Other Civil works	0.29	0.81	1.44	1.73
5	Plant & Machinery	7.57	9.57	12.55	14.86
6	Lines & Cables	10.27	12.24	14.67	15.50
7	Vehicles	0.00	0.00	0.00	0.00
8	Furniture	0.02	0.02	0.02	0.02
9	Office equipment	0.02	0.02	0.02	0.02
10	IT Equipments	0.25	0.59	2.14	4.27
11	Total	18.72	23.70	31.46	37.05

MePTCL requested the Commission to kindly approve Depreciation of Rs. 23.70 Cr, Rs. 31.46 Cr and Rs. 37.05 Cr for FY 2015-16, FY 2016-17 and FY 2017- 18 respectively.

### Commission analysis

As per regulation 33 of MYT Tariff regulations 2014, “the opening assets value as recorded in the balance sheet as per the transfer scheme notification shall be deemed to have been approved, subject to such modifications as may be found necessary upon audit of the accounts, if such balance sheet is not audited consumer contribution of capital subsidy/grant etc shall be excluded from the asset value for the purpose of Depreciation”

*“Depreciation shall be calculated annually as per straight line method of the rates specified in CERC (Terms and Conditions of Tariff) Regulations 2009 as may be enumerated from time to time.*

*Provided that land is not depreciable asset and its cost shall be excluded from the capital cost while computing historical cost of the asset.*

*Depreciation shall be chargeable from the 1<sup>st</sup> year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on prorata basis”*

While so the depreciation calculated by MePTCL in the above tables is not in accordance with the above regulations. Depreciation rate of 5.81% is adopted for plant and machinery, but as per CERC regulations the rate is 5.28%. Assets created out of consumer contribution and grants etc are not deducted from the asset value while calculating depreciation, nor furnished the value of grants. So the depreciation is calculated on average asset value at an average rate of depreciation of 5.13%. While considering the capital investment in the business plan the Commission has considered only those projects which have already started up to the date of finalization of this tariff order and allowed depreciation only after commissioning of such projects in the year 2015-16, 2016-17 and 2017-18. In the absence of complete information about the investment plans the Commission has considered the above approach. However, Commission directs the licensee to get the approval of investment for that investment which is to be started in 2015-16 and onwards. MePTCL shall submit separate petition for investment approvals along with their DPRs, approval of appropriate authority, financing, etc by 30.08.2015. The Commission shall take a final view in the matter of investment decisions in the control period thereafter and allow the same at the time of approving tariff for FY 2016-17. The details of depreciation as allowed are given in the table below:

**Table 5.17: Depreciation approved by the Commissioner for FY 16 to FY 18**

(Rs. Cr)

Items	FY 2015-16	FY 2016-17	FY 2017-18
Opening GFA	323.33	401.3	434.6
Addition during the year	77.97	33.3	0
Retirement during the year			
Closing GFA	401.3	434.6	434.6
Average GFA	362.315	417.95	434.6
Depreciation @5.13%	18.59	21.44	22.29

The Commission approves depreciation at Rs. 18.59 crore, Rs. 21.44 crore and Rs. 22.29 Crore for FY 2015-16, FY 2016-17 and FY 2017-18 respectively.

### 5.16 Interest on Capital Loan

As per Regulation 32 of the MYT Regulations, 2014, Interest and finance charges on loan capital shall be computed on the outstanding loans, duly taking into account the schedule of loan repayment, terms and conditions of loan agreements, bond or debenture and the lending rate specified therein. It is submitted that the Interest on Loan for the control period has been computed by considering Interest obligation for existing loans as well as for future projects with a loan component. Year wise loans availed, repayment and interest thereon as furnished by MePTCL is furnished below.

**Table 5.18 Details of Loans for the Year FY2012-13**

(Rs. in Lakhs)							
S.No	Particulars	Opening balance	Rate of Interest	Addition during the year	Repayment during the year	Closing balance	Amount of interest paid
1	2	3	4	5	6	7	8
1	PFC						
2	Total						
3	Add State Govt. Loan	1,083.13	7.84%	494.21	99.54	1,477.81	100.43
4	Add Central Govt. Loan	373.89	8.65%	-	-	373.89	32.34
5	Total (1+3+4)	1,457.02	8.03%	494.21	99.54	1,851.70	132.77
6	Less capitalisation						
7	Net Interest						
8	Add prior period						
9	Total Interest						
10	Finance charges						
11	Total Interest and finance charges						
Details of Loans for the Year FY2013-14							
1	PFC						
2	Total						

**MePTCL –Tariff Order for Control Period FY 2015-16 to FY 2017-18**

S.No	Particulars	Opening balance	Rate of Interest	Addition during the year	Repayment during the year	Closing balance	Amount of interest paid
1	2	3	4	5	6	7	8
3	Add State Govt. Loan	1,477.81	9.04%	846.51	-	2,324.32	171.83
4	Add Central Govt. Loan	373.89	8.82%	-	-	373.89	32.99
5	Total (13+14)	1,851.70	9.00%	846.51	-	2,698.21	204.82
6	Less capitalisation						
7	Net Interest						
8	Add prior period						
9	Total Interest						
10	Finance charges						
11	Total Interest and finance charges						
<b>Details of Loans for the Year FY 2014-15</b>							
1	PFC						
2	Total						
3	Add State Govt. Loan	2,324.32	9.31%	766.08	-	3,090.40	252.05
4	Add Central Govt. Loan	373.89	8.82%	-	-	373.89	32.99
5	Total (13+14)	2,698.21	9.25%	766.08	-	3,464.29	285.04
6	Less capitalisation						
7	Net Interest						
8	Add prior period						
9	Total Interest						
10	Finance charges						
11	Total Interest and finance charges						
<b>Details of Loans for the Year FY2015-16</b>							
1	PFC	1,500.00	12.50%	-	-	1,500.00	187.50
2	Total						
3	Add State Govt. Loan	3,090.40	9.31%	2,856.15	-	5,946.55	420.67

**MePTCL –Tariff Order for Control Period FY 2015-16 to FY 2017-18**

S.No	Particulars	Opening balance	Rate of Interest	Addition during the year	Repayment during the year	Closing balance	Amount of interest paid
1	2	3	4	5	6	7	8
4	Add Central Govt. Loan	373.89	8.82%	-	-	373.89	32.99
5	Total (1+4)	4,964.29	10.03%	2,856.15	-	7,820.44	641.16
6	Less capitalisation						
7	Net Interest						
8	Add prior period						
9	Total Interest						
10	Finance charges						
11	Total Interest and finance charges						
<b>Details of Loans for the Year FY 2016-17</b>							
1	PFC	1,500.00	12.50%	0	0	1,500.00	187.50
2	Total						
3	Add State Govt. Loan	5,946.55	9.31%	1334.3	0	7,280.85	615.74
4	Add Central Govt. Loan	373.89	8.82%	0	0	373.89	32.99
5	Total (1+3+4)	7,820.44	8.38%	1,334.30	-	7,654.74	648.73
6	Less capitalisation						
7	Net Interest						
8	Add prior period						
9	Total Interest						
10	Finance charges						
11	Total Interest and finance charges						



## Details of Loans for the Year FY 2017-18

Sl.No	Particulars	Opening balance	Rate of Interest	Addition during the year	Repayment during the year	Closing balance	Amount of interest paid
1	2	3	4	5	6	7	8
1	PFC	1,500.00	0.125	0	0	1,500.00	187.50
2	Total						
3	Add State Govt. Loan	7,280.85	9.31%	459.8	0	7,740.65	699.25
4	Add Central Govt. Loan	373.89	8.82%	0	0	373.89	32.99
5	Total (1+3+4)	9154.74	9.78%	459.80	150.00	9464.54	910.37
6	Less capitalisation						
7	Net Interest						
8	Add prior period						
9	Total Interest						
10	Finance charges						
11	Total Interest and finance charges						

The summarized statement of interest and finance charges for control period are shown in Table below:

Table 5.19: Computation of Interest on Loan

(Rs. Cr)				
Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
Opening Balance	26.98	34.64	63.20	76.55
Addition During the Year	7.66	28.56	13.34	4.60
Repayment during the year	-	-	-	1.50
Closing Balance	34.64	63.20	76.55	79.65
Average Interest Rate	9.25%	13.11%	11.97%	11.66%
Interest Payable	2.85	6.41	8.36	9.10
Add: Finance Charge	-	-	-	-
Interest and Finance Charges	2.85	6.41	8.36	9.10

Multi Year Tariff Regulations, 2014 also provide for Normative Loan on capital projects funded with equity component greater than 30% of capital cost. The relevant provision is highlighted below:

### “27. Debt-Equity Ratio

(27.1) For a project declared under commercial operation on or after 1.4.2015, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan; .....

The Normative Loan is computed as Closing Balance of Equity less Equity Considered for RoE for every year. Based on above provisions, the Normative Loan and Interest are computed as below:

**Table 5.20: Interest on Normative Loan**

(Rs. Cr)				
Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
Normative Loan	48.95	142.40	222.46	250.05
Rate of Interest	9.25%	13.11%	11.97%	11.66%
Interest on Normative Loan	4.53	18.66	26.62	29.15
Total Interest	7.38	25.07	34.98	38.25

The Total Interest on Loan Capital as well as Interest on Normative Loans is given in table below

**Table 5.21: Total Interest on Loan Capital and Normative Loans**

(Rs. Cr)			
Particulars	FY 2015-16	FY 2016-17	FY 2017-18
Interest on Loans and Finance Charges	6.41	8.36	9.10
Interest on Normative Loan	25.07	34.98	38.25
Total Interest and Finance Charges	31.49	43.35	47.35

MePTCL submits before the Commission to kindly approve Rs. 31.49 Cr, Rs. 43.35 Cr and Rs. 47.35 Cr as Interest and Finance Charges for FY 2015-16, FY 2016-17 and FY 2017-18 respectively.

**Commission analysis**

As per the scheme wise investment Vs funding furnished vide Annexure 2, State Government loans to tune of Rs. 70.46 Crore and PFC loan of Rs. 15.00 Crore are proposed during the period FY 2012-13 to FY 2017-18 as detailed below:

**Table 5.22: Investment and Funding**

(Rs. Cr)				
Year	State Government Loan	PFC Loan	Grant	Total
2012-13	0.37		3.29	3.66
2013-14	3.33		29.97	33.3
2014-15	53.84	15	783.94	852.78
2015-16	7.1		166.38	173.48
2016-17	3.5		31.5	35
2017-18	2.32		20.88	23.2
Total	70.46	15	1035.96	1121.42

As verified from the details of loans furnished as above the loans availed are not in conformity with the data furnished. Especially the PFC loan of Rs. 15 Crore proposed during FY 2014-15 is not considered in computation of interest. This needs to be reconciled. The MePTCL has not proposed repayment of loans. MePTCL in its reply dated 25.02.2015 submitted that interest on loan projected by MePTCL is on the basis of funding pattern as estimated and the loan to be drawn from different financial institutions and therefore they have claimed on the loans which are only projected and not actuals. As per the regulations the interest on loan should only be allowed on the outstanding amounts. The Commission has considered repayment of loans to the extent of depreciation allowed and the interest has been worked out accordingly. However, MePTCL is free to file the petition for claiming the interest on loan actually availed in the control period. The Commission shall consider the same at the time of next filing or truing up.

**The Commission approves Rs.6.16, Rs.8.09, Rs.8.80 Crore for the control period FY 2015-16, 2016-17 and 2017-18 respectively.**

### 5.17 Interest on Working Capital

As per Regulation 34.3(i) of the MYT Regulations, 2014, the components of working capital will be:

#### **“34.2 Transmission Business**

(i) The Transmission Licensee shall be allowed interest on the estimated level of working capital for the financial year, computed as follows:

- Operation and maintenance expenses for one month; plus
- Maintenance spares at one (1) per cent of the historical cost escalated at
- 6% from the date of commercial operation; plus
- Receivables equivalent to two (2) month of transmission charges calculated on target availability level;

Interest shall be allowed at a rate equal to the State Bank Advance Rate (SBAR) as on 1st April of the financial year in which the Petition is filed.” The Working Capital is calculated as shown in the table below:

**Table 5.23: Working Capital Computation Projected by MePTCL**

(Rs. Cr)					
Sl. No.	Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
1	One month O & M Expense	5.97	6.47	6.69	6.92
2	Maintenance Spare Budget	3.97	4.75	6.91	8.74
3	Two months Receivables	23.79	30.54	35.28	37.75
4	TOTAL	33.73	41.76	48.87	53.41

The Interest on Working Capital is computed as shown in the table below:

**Table 5.24: Interest on Working Capital projected by MePTCL**

(Rs. Cr)					
Sl. No.	Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
1	Working Capital (Rs. Cr)	33.73	41.76	48.87	53.41
2	Bank Advance Rate (SBAR) as on 1.4.14	14.75%	14.75%	14.75%	14.75%
3	Interest on Working Capital (Rs. Cr)	4.97	6.16	7.21	7.88

SBI Advance Bank Rate (SBI PLR) has not been revised since Nov' 13. SBAR rate of Nov' 13 has been considered here.

MePTCL requested the Commission to kindly approve Rs. 6.16 Cr, Rs. 7.21 Cr and Rs. 7.88 Cr respectively for FY 2015-16, FY 2016-17 and FY 2017-18.

### Commission analysis

The interest on working capital is worked out based on approved costs as detailed in Table below:

**Table 5.25: Interest on Working Capital approved by the Commission for Control period FY 2015-16 to FY 2017-18**

Sl. No	Particulars	FY 2015-16	FY 2016-17	FY 2017-18
1	O&M costs for one month	3.91	3.91	4.17
2	Maintaining spares at 1% on opening GFA	4.12	5.47	6.18
3	Receivables (2) months	13.63	14.64	15.15
4	Total Working Capital	21.66	24.02	25.50
5	Rate of Interest %	14.75	14.75	14.75
6	Interest on Working Capital	3.20	3.54	3.76

The Commission approves interest on working capital Rs. 3.20 Crore, Rs. 3.54 Crore and Rs. 3.76 Crore for control period of FY 2015-16, FY 2016-17 and FY 2017-18 Respectively.

### 5.18 Computation of Return on Equity

The relevant regulations for determination of debt-equity ratio are extracted for reference as below:

#### ***“27 Debt-Equity Ratio***

*For a project declared under commercial operation on or after 1.4.2015, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan;*

*Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff.*

*Provided further that equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.*

*Provided any grant obtained for execution of the project shall not be considered as a part of capital structure for the purpose of debt-equity ratio.*

*Explanation:- The premium, if any, raised by the generating company or the transmission licensee or the distribution licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure.*

*In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2015, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2015 shall be considered.*

*Any expenditure incurred or projected to be incurred on or after 1.4.2015 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in this regulations.”*

The Regulation 31 of the MYT Regulations, 2014, provides for computation of Return on Equity. The extract is reproduced below:

**“31 Return on Equity**

*Return on equity shall be computed on the equity base determined in accordance with regulation 27 and shall not exceed 14%.*

*Provided that in case of generation & transmission projects commissioned after notification of these regulations, an additional return of 0.5 % shall be allowed if such projects are completed within the time line as specified in CERC Tariff Regulations.*

*Provided that in case of generation & transmission projects commissioned after the notification of these regulations an additional return of 1.5 % shall be allowed if such*

*projects are completed within the original sanctioned project cost without any time and cost overrun whatsoever.*

*Provided that equity invested in a foreign currency may be allowed a return up to the prescribed limit in the same currency and the payment on this account shall be made in Indian Rupees based on the exchange rate prevailing on the due date of billing.*

*The premium received while issuing share capital shall be treated as a part of equity provided the same is utilized for meeting capital expenditure.*

*Internal resources created out of free reserves and utilized for meeting capital expenditure shall also be treated as a part of equity.”*

For computation of RoE till 1<sup>st</sup> April, 2015, the Meghalaya State Electricity Regulatory Commission (Terms and Conditions for determination of Tariff) Regulations, 2011 (hereinafter referred as Tariff Regulations, 2011) have been followed. The relevant provision of Tariff Regulations, 2011 is reproduced below:

**“72. Debt-Equity Ratio**

*For the purpose of determination of tariff, debt-equity ratio in the case of existing, ongoing as well as new projects commencing after the date of notification of these regulations shall be 70:30. Where equity employed is more than 30%, of the capital cost the amount of equity for the purpose of tariff shall be limited to 30% and the balance shall be treated as loan. Where actual equity employed is less than 30%, of the capital cost the actual equity employed shall be considered. Provided that the Commission may, in appropriate case, consider equity higher than 30% for the purpose of determination of tariff, where the transmission licensee is able to establish to the satisfaction of the Commission that deployment of equity more than 30% is in the interest of general public*

*.....”*

**“74. Return on Equity**

*Return on equity shall be computed on the equity base determined in accordance with Regulation 32, at a fixed rate of 14 percent, per annum.....*

The equity amount appearing in the Balance Sheet as per Transfer scheme notification will be considered for the purpose of considering the return for the first year of operation.

.....”

Based on the above submission the Return on Equity computation is shown in the table below:

**Table 5.26: Return on Equity Computation Projected by MePTCL**

Particulars	(Rs. Cr)					
	FY 2012-13 (Provisional)	FY 2013-14 (Provisional)	FY 2014-15 (Estimated)	FY 2015-16 (Projected)	FY 2016-17 (Projected)	FY 2017-18 (Projected)
Opening Balance	211.74	300.66	348.09	365.44	511.79	631.88
Additions During the year	88.92	47.43	17.35	146.35	120.09	41.38
Closing Equity	300.66	348.09	365.44	511.79	631.88	673.21
Equity considered of RoE	259.47	301.05	316.49	369.39	409.42	423.21
RoE	14%	14%	14%	14%	14%	14%
RoE	36.33	42.15	44.31	51.71	57.32	59.25

MePTCL submits before the Hon'ble Commission to kindly approve RoE of Rs. **51.71** Cr, Rs. **57.32** Cr & Rs. **59.25** Cr for FY 2015-16, FY 2016-17 and FY 2017-18 respectively.

### Commission analysis

As per the Meghalaya Power Sector reforms transfer scheme 2010 notified on 31-03-2010 function wise opening equity as on 01-04-2008 is as detailed in table below:



**Table 5.27: Function wise opening equity**

		(Rs Cr)
Sl. No	Function	Amount
1	Generation	248.40
2	Transmission	68.61
3	Distribution	135.48
4	Holding Company	510.76
5	Total Equity	963.25

The Government of Meghalaya in its latest notification dated 16-09-2013 has modified the transfer value of assets and liabilities and furnished revised consolidated equity amount of Rs. 767.55 Crore replacing the earlier declared transfer value as on 01-04-2008.

Subsequently audited annual accounts for FY 2010-11 and 2011-12 of the holding company are furnished wherein revised consolidated equity amount of Rs. 903.53 and 1008.28 Crore respectively are furnished pending allotment of shares. In the absence of segregation of amount among the newly formed companies and the statement of accounts, the Commission is unable to consider the licensee's proposal. Accordingly, as done in previous year the Commission is considering same return on equity as allowed last year subject to correction at the time of audit of accounts and in accordance with the Commission's Regulation.

**The Commission approves return on equity at Rs. 9.43 Crore, Rs. 9.43 Crore and Rs. 9.43 Crore for control period of FY 2015-16, FY 2016-17 and FY 2017-18 respectively subject to corrections as per regulations and audited accounts.**

### 5.19 Other Income

The Regulation 65 of the MYT Regulations, 2014, provides the cost components of MePTCL. The relevant regulation is reproduced below for ready reference:

***“65 Components of tariff.....”***

*The Annual Transmission Charge of the Transmission Licensee shall be determined after deducting the following components from the Annual Expenditure as determined above:*

- a. Income from surcharge and additional surcharge for Open Access Consumers if any*
- b. Transmission/wheeling charges recovered from Open Access Consumers, if any*
- c. Authorised portion of Income/ Revenue from other business engaged in by the Licensee for optimum utilization of assets, if any.”*

The summary of Other Income is mentioned in Table 26 below. The detail of Any Other Income is enclosed in Format 10. Hon’ble Commission is requested to approve Rs. 6.24 Cr as other Income for FY 2015-16 to FY 2017-18.

**Table 5.28: Other Income Summary Projected by MePTCL**

<b>(Rs Cr)</b>				
Particulars	FY2014-15 (Estimated)	FY2015-16 (Projected)	FY2016-17 (Projected)	FY2017-18 (Projected)
Charges Recoverable from OA Consumer	6.22	6.22	6.22	6.22
Any Other Income	0.01	0.01	0.01	0.01
<b>Total Other Income</b>	<b>6.24</b>	<b>6.24</b>	<b>6.24</b>	<b>6.24</b>

MePTCL requested the Commission to kindly approve Other Income of Rs. 6.24 Cr for each year of control period.

#### **Commission analysis**

The Commission after checking the records of FY 2014-15 approves income from OA consumers at 5.23 crores and .01 crores from other sources. Accordingly the Commission approves other expenses at Rs. 5.24 Crore per annum for the control period of FY 2015-16, FY 2016-17 and FY 2017-18 as projected by MePTCL.

### Annual License Fee

As per Regulation 65.3(g) of the MYT Regulations, 2014 the Annual License fee payable by the Transmission Licensee is a part of the Annual Expenditure of MePTCL. In accordance with Regulation 5 and Schedule 1 of Meghalaya State Electricity Regulatory Commission (Fees and Charges) Regulations, 2009, MePTCL needs to pay **Rs. 0.03 Crore** as Annual License Fee for each Financial Year. Therefore Hon'ble Commission may kindly allow **Rs. 0.03 Crore** to be passed through as part of annual expenditure of MePTCL.

### Commission analysis

**The Commission approves annual license fee of Rs. 0.03 Crore per annum for Control Period of FY 2015-16 to FY 2017-18**

### 5.20 SLDC Charges

As per Regulation 1, 23(3), 23(6) of MSERC (Levy and Collection of State Load Despatch Centre Fees and Charges) Regulations, 2009, MePTCL will need to bear 50% of the Annual Revenue Requirement of SLDC. As per information received from SLDC, the total ARR of SLDC for the FY 2015-16, FY 2016-17 and FY 2017-18 is Rs. 2.62 Cr, Rs. 3.32 Cr and Rs. 3.73 Cr. Therefore it is submitted that the Rs. 1.31 Cr, Rs. 1.66 Cr and Rs. 1.86 Cr (50% of the total SLDC ARR) may kindly be allowed to be passed through as SLDC charges as a part of Transmission ARR.

### Commission analysis

The Commission has separately determined the ARR of SLDC for FY 2015-16 and in the control period in the following manner:

2015-16	2016-17	2017-18
2.10	2.00	2.30

Out of the above ARR the cost of SLDC is distributed 50% for MePTCL as per the proposal of the licensee.

As per the approved ARR of SLDC for control period 50% of the SLDC ARR allocated to Transmission license is as detailed below.

**Table 5.29 Allocation of expenses Transmission**

Sl. No	Particulars	2015-16	2016-17	2017-18
1	Net ARR of SLDC	2.10	2.00	2.30
2	50% allocated to Transmission	1.05	1.00	1.15

### 5.21 Aggregate Revenue Requirement

Based on the detailed computation of ARR components, the abstract of ARR is shown in the table below and attached as Format D7. MePTCL submits before the Hon'ble Commission to kindly approve Net ARR of Rs. 183.23 Cr, Rs. 211.69 Cr and Rs. 226.50 Cr for FY 2015-16, FY 2016-17 and FY 2017-18 respectively. The component-wise summary of ARR is given in table below:

**Table 5.30: Annual Transmission Charges Projected by MePTCL**

(Rs. Cr)					
Sl.No.	Particulars	FY2014-15 (Estimated)	FY2015-16 (Projected)	FY2016-17 (Projected)	FY2017-18 (Projected)
1	Return on Equity (RoE)	44.31	51.71	57.32	59.25
2	Interest on Loan capital	10.23	31.49	43.35	47.35
3	Operation and Maintenance expenses	71.58	77.68	80.22	83.04
4	Interest on Working Capital	4.97	6.16	7.21	7.88
5	Depreciation as may be allowed	18.72	23.70	31.46	37.05
6	Taxes on Income	-	-	-	-
7	Annual License Fee	0.03	0.03	0.03	0.03
8	SLDC Charges	0.86	1.31	1.66	1.86
9	Total Annual Expenditure	150.70	192.09	221.24	236.46
10	Less: SLDC ARR	1.72	2.62	3.32	3.73
11	Less: Other Income	6.24	6.24	6.24	6.24
12	Net Annual Revenue Requirement	142.75	183.23	211.69	226.50

**Commission analysis**

Based on the Commission's analysis, the Aggregate Revenue Requirement (ARR) Annual fixed charges as approved by the Commission are given in the Table below:

**Table 5.31: Aggregate Revenue Requirement approved by the Commission for FY 16 to FY 18**

(Rs. Cr)				
Sl. No	Particulars	2015-16	2016-17	2017-18
1	O&M Expenses			
a	Employee Cost	17.8	18.8	19.9
b	R&M expenses	6.7	4.3	4.6
c	A&G Expenses *	22.5	23.9	25.14
2	Depreciation	18.59	21.44	22.29
3	Interest on Capital Loan	6.16	8.09	8.80
4	Interest on Working Capital	3.20	3.54	3.76
5	Return on Equity	9.43	9.43	9.43
6	Charges of SLDC	1.05	1.0	1.15
7	Annual Licensee Fees	0.03	0.03	0.03
	Total	85.46	90.53	95.10
8	Less: Other Income	5.24	5.24	5.24
9	Less: SLDC ARR	2.10	2.00	2.30
	Net ARR	78.12	83.29	87.56

\* including the charges of MeECL the holding company.

### **Sharing of Transmission Charges when more than one beneficiary in the Transmission system**

MePTCL submits that based on the Annual Fixed Cost approved by Commission it will calculate the Transmission Charges based on following provisions:

#### ***"72 Sharing of Transmission Charges***

*In case of more than one beneficiaries of the transmission system, the monthly transmission charges leviable on each beneficiary shall be computed as per the Following formula:*

*Transmission charges for transmission system payable for a month by the beneficiary of that transmission system ==  $\left[ \frac{TC}{12} - TRSC \right] \times \frac{CL}{SCL}$*

*Where*

*TC= Annual Transmission charges computed in accordance with Regulation 65.*

*CL=Allotted transmission capacity of the beneficiary*

*SCL=Sum of allotted transmission capacities of all the beneficiaries of the state transmission system*

*TRSC=Total recovery of transmission charges for the month from short term transmission consumers.”*

*Computation and payment of transmission charge for Intra-State Transmission system.*

*The fixed cost of the transmission system shall be computed on annual basis, in accordance with norms contained in these regulations, aggregated as appropriate, and recovered on monthly basis as transmission charge from the users, who shall share these charges in the manner specified.*

*The transmission charge (inclusive of incentive) payable for a calendar month for a transmission system or part thereof shall be*

$$= AFC \times ( NDM / NDY ) \times ( TAFM / NATAF )$$

*Where,*

*AFC = Annual fixed cost specified for the year, in Rupees.*

*NATAF= Normative annual transmission availability factor in percent*

*NDM = Number of days in the month*

*NDY = Number of days in the year*

*TAFM = Transmission availability factor achieved during the month, in %*

The transmission licensee shall raise the bill for the transmission charge (Inclusive of incentive) for a month based on its estimate of TAFM. As per the Annexure-III of MYT Procedure for Calculation of Transmission System Availability Factor for a Month as per latest CERC Regulations

The TAFM shall be computed in accordance with the following formula:

**TAFM= (100-100 x NAFM) where**

$$NAFM = \left[ \sum_{l=1}^L (OH_l \times Cktkm_l \times NSC_l) + \sum_{t=1}^T (OH_t \times MVA_t \times 2.5) + \sum_{r=1}^R (OH_r \times MVAR_r \times 4) \right] \div THM \left[ \frac{Cktkm_l \times NSC_l}{(MVA_t \times 2.5) + \frac{MVAR_r \times 4}{}} \right] +$$

Where,

*l* identifies transmission line circuit

*t* identifies transformer circuit

*r* identifies bus reactor, switchable line reactor and SVCs.

*T*= total no. of transformers and ICTs.

*L*= total no. of line circuits

*R*= total no. of bus reactors, switchable line reactor and SVCs.

*Ckt km*= length of a transmission line circuit in km

*NSC*= no. of sub conductors per phase

*MVA*= MVA rating of transformer/ ICTs

*MVAR*=MVAR rating of bus reactor, switchable line reactor and SVCs.

*THM*= Total hours in a month

*OH*= Outage hours or hours of non-availability in a month, excluding the duration of outages not attributable to transmission licensee

*NAFM* for each HVDC system shall be calculated separately, as follows :

$$NAFM = \left[ \sum (TCR \times \text{hours}) \right] \div \left[ THM \times RC \right]$$

Where

*TCR* = Transmission capability reduction of the system in MW

*RC = Rated capacity of the system in MW.*

*For the above purpose, the HVDC terminals and directly associated EHV / HVDC lines of an HVDC system shall be taken as one integrated system.*

It is approved that MePTCL, the transmission licensee in the State will be entitled to recover Annual Transmission Charges of Rs. 78.12 crores in the year 2015-16 from its beneficiaries in accordance with the provisions of the Regulations. However, MePDCL being the main beneficiary at present, this amount shall be paid by MePDCL to MePTCL in twelve monthly installments of Rs. 6.51 crores per month subject to availability of transmission network in accordance with the Regulations as may be certified by SLDC.



## Open Access Charges

### 6.1 Computed the Open Access Charges

MePTCL has computed the open access charges for FY 2015-16 on the projected energy of 1481.42 MU to be handled by MePTCL during FY 2015-16.

The average load projected to be served

$$(\text{ALST}) = 1481.42 \times 1000 \times 24 \times 365$$

$$= 169.11 \text{ MW}$$

#### Commission Analysis

As per energy balance approved by the Commission in the order and the present load of the State, the Commission approves 170.40 MW as the Average Load for 2015-16.

### 6.2 Open access charges/Transmission charges for FY 2015-16

The open access charges projected by MePTCL based on projected ARR and approved by the Commission based on approved ARR are furnished in table below.

**Table 6.1 Open Access charges approved by the Commission for FY 2015-16**

Sl. No.	Particulars	Projected by MePTCL	Approved by the Commission
1	MePTCL ARR (Rs. Cr)	183.23	78.12
2	Average Load (MW)	169.11	170.40
3	Open Access charges Rs. MW/per day (Rs)	29684.25	12560

The Commission approved open access charges of Rs. 12560 per MW per day for FY 2015-16 effective from 01.04.2015. This rate shall be applicable for all open access consumers.

In order to meet the requirement of the regulations, the transmission charges for all consumers including open access consumers shall be Rs. 10.73 per unit. However the

recovery of charges from the open access consumers shall be done strictly as per the regulation 21 of MSERC (Terms and Conditions of Open Access) Regulations 2012 and its amendments. All other charges shall be as per regulations & its amendments and Commission's orders issued from time to time.

## 6. Directives

### 7.1 Compliance of Directives of MSERC vide Transmission Tariff Order dated 10.04.2014 for 2014-15

- The provisions of the State Grid Code with regard to interface meters, monitoring of drawal, record keeping and operation are being followed by MePTCL. The State Load Despatch Centre is closely monitoring the system operation and ensures that the transfer of energy is according to CERC's guidelines.
- The Statements of Accounts for FY 2011-12 have been audited and the accounts for FY 2012-13 are being currently audited. The preparation of Asset Register is planned to be undertaken after the segregation of accounts for MeECL and its subsidiaries.
- MePTCL has submitted the Senior Electrical Inspector certificates of completed projects to MSERC vide letter No. MePTCL/ACE/T&T/T-102/2013-14/80 Distribution Transformer 20.01.2014. The certificates of other projects shall be submitted to MSERC on completion and when received from the Senior Electrical Inspector.
- Functional independence of SLDC has been notified vide Government of Meghalaya, Power Department notification no. Power-79/2009/445 dated 18.06.2013 wherein it was mandated that (i) the SLDC shall work as a Strategic Business Unit (SBU) under the State Transmission Utility (STU), MePTCL. The SLDC shall remain under administrative control of MePTCL. A separate bank account for SLDC has been opened w.e.f. 27.08.2013 for SLDC. SLDC is operating the Bank account for collection of Application fee, UI charges, Reactive Energy charges etc. The complete ring fencing is expected after the total segregation of MePTCL becomes effective.
- The status of metering and mechanism for recording and collection of information required for calculation of voltage wise losses at transmission level

and initiating the exercise of energy audit in the transmission sector was sent to MSERC vide. MePTCL/ACE/T&T/T-102(Pt-I)/2014-15/38 dt. 07.10.2014.

- Preparation of the Norms for Operation and Maintenance require a primary input which is segregated cost of network-wise assets. However, currently the accounts of companies are being segregated for the year FY2013-14 which will provide a base for accounting of MePTCL revenue and expenditure. Also, MePTCL is a newly incorporated entity which is in second year of its segregated operation and is yet to streamline its processes to arrive at such expenditure details required for finalization of O&M norms. Keeping in view the genuine constraints, it is submitted that MePTCL will be in a position to submit the O&M norms during filing of Mid-Term Review petition.
- MePTCL is complying with the directives issued by dispatch centers/appropriate authorities in order to maintain grid discipline. There was no major incident during 2014-15.

### New Directives

1. As discussed in the order, MePTCL shall submit its investment plan proposed to be in the control period to the Commission for its approval by 30.08.2015. The plan should be accompanied with agreement of financing, approval from appropriate authority and details of the project with cost benefit analysis, etc.
2. While allowing open access, the STU shall ensure that the availability/capacity of the line on which open access shall take place is sufficient. In no case it should hinder the power flow to the distribution licensee. It is further directed that STU, while computing the spare capacity in the transmission lines, shall include the evacuation of power from new central generating stations that are being allocated to Meghalaya in the control period. Any failure of the grid on account of over utilization of the present capacity by open access shall be investigated. STU shall submit the latest position of interstate lines capacity and spinning reserve in accordance with regulations and sanction NOC for open access. While working out the capacity of the different lines MePTCL shall account for the new

capacity addition by the central generating stations to the State in the control period. This report should be submitted by 30.08.2015.

3. STU shall also ensure the compliance of provision of grid code, MSERC regulation while allowing open access and shall recover the charges as allowed by the Commission and its regulations.
4. While allowing ARR, the capital investment plans considered for depreciation and loan repayments are indicative figures and shall be approved only after submission of business plan by the licensee latest by 30.08.2015.
5. The Commission is concerned about the incompleteness of accounts for FY 2012-13 & 2013-14. It is therefore decided that the Commission shall accept the investment plans if submitted with the audited results by 30.08.2015.

ANNEXURE - 1

**RECORD NOTE OF THE PUBLIC HEARING HELD ON 09.03.2015 IN THE MSERC CONFERENCE HALL ON THE PETITION FILED BY MEPTCL FOR APPROVING THE MYT ARR FOR FY 2015-16 AND CONTROL PERIOD AND CHARGES OF OPEN ACCESS IN TRANSMISSION FOR FY 2015-16.**

**Record Note of Public Hearing**

- 1) Chairman MSERC welcomed the participants who had come to attend the hearing. The Chairman explained the salient features of the MYT and related issues to it. The Chairman has shown his concern that the audited records are required to be filed for validations of the revenue and expenditures of MYT period. It was submitted by MeECL that the accounts for FY 2012-13 are completed and the State Government is in the process of publishing its transfer schemes for segregated entities very soon. The Commission required MeECL to submit the status of accounts and its audit including the Government Notification in this regard within a week's time.
- 2) Byrnihat Industries Association, represented by Ms. S. Sahoo, expressed concern of the industries. On the ARR of transmission BIA objected to non filing of truing up petition for the period up to 2013-14. They expressed that without truing up of previous year it would not be reasonable to decide the ARR of MYT as per Commission's regulations. BIA objected and required the details of projections of additional capital expenditures in the control period and sought justification for adding very high amount of capital assets in the control period, they required the cost benefit analysis of additional assets to be added in the transmission system.
- 3) BIA objected to allow the depreciation on the assets which are not completed so far but are projected in the ARR. They also demanded that assets created with grants or the portion of assets created out of grants should not be considered for any expenditure like

depreciation, interest and equity. They had given decisions of APTEL in the matter of Power Grid that depreciation should not be allowed on assets created by grants.

4) BIA raised an objection on the interest part of the ARR and sought details of repayment schedule on the loans taken so far. Similarly, they have raised an objection for an O&M cost projected in the ARR. They sought an explanation for an increase of about more than two times in the employees cost. MeECL explained that by mistake and typographical error this was done. They have given clarification to the Commission that the employees cost is now reduced significantly. Similarly, BIA required MeECL to meet the efficient norm related with employees number. Regarding R&M expenditures, BIA required MeECL to give its explanation for increase of about two times in the present expenditures.

5) MePTCL explained to the Commission that they have given point wise replies to the BIA objections and filed with the Commission. MePTCL explained their position with regard to audit of accounts, expenditures and capital expenditures.

6) BIA raised objection with regard to cross subsidy surcharges and its computation is required to be done as per National Tariff Policy formula. MePTCL requested the Commission to maintain the cross subsidy as per the actual cross subsidy between the subsidising and subsidised consumers.

7) BIA opposed the level of transmission losses projected in the ARR @ of 5.5% and requested the Commission that it should be based on actual losses in the transmission network. MePTCL explained that the losses are based on the energy accounting taken from the difference of input energy and output energy from the transmission substation to distribution system.

8) BIA suggested that there should be transmission charges to be charged on the basis of actual transaction and not on the basis of capacity. The Chairman explained the provision of regulations that charges of open access should be recovered as per the regulations on capacity, scheduling or actual transaction whichever is higher. The

Commission required the licensee to recover the dues as per the Commission's regulations and charges as may be fixed from time to time. MePTCL required time up to 16<sup>th</sup> March, 2015 to give its reply on the objection filed by BIA on open access. A copy of objections was handed over to MePTCL during the hearing.

9) The Chairman explained that with today's hearing the proceedings with the matter of ARR of transmission and open access charges are completed.

10) The hearing ended with a vote of thanks from the Chairman, MSERC.

(J.B. Poon)  
Secretary, MSERC



**LIST OF PARTICIPANTS IN THE PUBLIC HEARING ON 09.03.2015**

**MePTCL/MeECL**

1. E.W Nongrum, Chief Engineer (T), MeECL
2. L.M.F. Sohtun, Add. Chief Engineer (T)
3. A. Kharpan, Add. Chief Engineer (Com).
4. M. S. Rawat, Chief Accounts Officer, MeECL
5. M. Marbaniang, SE (T & T)
6. F.E. Kharshiing SE, SLDC
7. P.Sahkhar, SE (RA&FD)
8. R. Syiem, SE (T&T)
9. J. Hynniewta, SE (Elect-II)
10. A. Shabong, Account Officer
11. L. Kharpran, Section officer
12. B. Wankhar, MO
13. P. Mehta, Consultant, Feedback
14. S. Bhavsar, Consultant, Feedback
15. K.Swer, Consultant, Feedback
16. Nand Kishore, Consultant, PFCCL
17. R.Jyrwa, Section Officer
18. K.A. Sohtun, Section Officer

**BIA**

1. Ms. S. Sahoo, Advocate.
2. Shri Anand Shankar Roy