MEGHALAYA STATE ELECTRICITY REGULATORY COMMISSION -

Aggregate Revenue Requirement for FY 2013-14 -

For

MEGHALAYA POWER GENERATION CORPORATION LIMITED

30.03.2013

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BEFORE THE MEGHALAYA STATE ELECTRICITY REGULATORY COMMISSION

In the matter of: -

Approval of Aggregate Revenue Requirement and Tariff of the Meghalaya Power Generation - Corporation Limited (MePGCL) for the FY 2013-14. -

And -

In the matter of: -

The Meghalaya Power Generation Corporation Limited, Lumjingshai, Shillong, Meghalaya. -

CORAM

Shri Anand Kumar, Chairman

Date of Order: 30.3.2013

ORDER

This order relates to the Petition on Aggregate Revenue Requirement and Tariff for Financial Year 2013-14 filed by the Meghalaya Power Generation Corporation Limited (hereinafter referred to as the "Petitioner") on 14.12.2012. This petition was filed under the MSERC (Terms and Conditions for Determination of Tariff) Regulations 2011 and under section 62 read with section 86 of the Electricity Act, 2003(hereinafter referred to as "Act").

Section 64(1) read with Section 61 and 62 of the Act requires Generation Company to file an application for determination of tariff before the Appropriate Commission in such manner and along with such fee as may be specified by the Appropriate Commission through Regulations. In compliance with Electricity Act 2003 the Commission had notified MSERC (Conduct of Business) Regulations 2007 and MSERC (Terms and Conditions for Determination of Tariff) Regulations 2011. These regulations cover the procedure for filing the tariff application, methodology for determining the tariff and recovery of charges as approved by the Commission from the beneficiaries.

The Government of Meghalaya vide its Power Sector Reforms Transfer Scheme 2010 transferred the assets, properties, rights, liabilities, obligations and personal of the erstwhile MeSEB into four corporations namely (i) the Meghalaya Energy Corporation Limited (MeECL), which is the holding company, (ii) the Meghalaya Power Generation Corporation Limited (MePGCL), which is the generation utility, (iii)the Meghalaya Power Distribution Corporation Limited (MePDCL), which is the distribution license and (iv) the Meghalaya Power Transmission Corporation Limited (MePTCL), -which is the transmission licensee. This transfer scheme is effective from 01.04.2012 and from that date all companies/licensee had to start independent functioning. However, it is reported that these Companies have not yet commenced commercial operation as independent entities and are in the process of preparing their statement of accounts in accordance with the transfer scheme.

This petition was filed by MePGCL on 14.12.2013 for determining the tariff of their 8 hydro power stations for FY 2013-14 as an independent corporation for the first time. Accordingly, the Commission examined the petition and held a meeting on 20.12.2012 to discuss infirmities in the original petition. Petitioner required time up to 14.01.2013 to submit the essential information. MePGCL submitted some of the information to the Commission on 14.01.2013. Keeping in view the desirability for timely completion of the tariff process for the next year 2013-14, the Commission provisionally admitted the petition for further processing subject to the condition that the petitioner shall furnish any further information/clarification as deemed necessary by the Commission during the processing of the petition. The Commission further directed the petitioner to publish public notice in accordance with Tariff Regulations detailing the salient features of the ARR petition and proposals filed by it for financial year 2013-14 for comments by all stakeholders and public at large. The petitioner was also directed to place the petition on its website and its Headquarter/other offices for inspection or making relevant extracts for the members of the public.

After conducting number of technical sessions with the utilities, members of the advisory committee and public hearing, the Commission on the basis of records submitted by the licensee passed this order for determining annual fixed charges for FY 2013-14 for 8 generating stations of MePGCL.

For the sake of convenience and clarity, this Order has further been divided into following Chapters:

Chapter 1 – Introduction and brief history

Chapter 2 – Petitioner's Submissions and Proposals

Chapter 3 – Stakeholders' Responses & Petitioner's Comments

Chapter 4 – Commission's Approach

Chapter 5 – Commission's Analysis, Scrutiny and Conclusion.

Chapter 6 – Directives

CHAPTER – 1

INTRODUCTION AND BRIEF HISTORY

The Meghalaya Power Generation Corporation Limited (MePGCL) filed this tariff petition on 14.12.2013 for determination of tariff of its 8 generating stations. The power supply industry in Meghalaya had been under the control of erstwhile MeSEB w.e.f. 21.01.1975. On 31.03.2010, the Government of Meghalaya issued a Notification for the power sector reform and transferred the assets, liabilities, rights and obligations to four companies namely, the Meghalaya Energy Corporation Limited (MeECL) which is the holding company, the Meghalaya Power Distribution Corporation Limited (MePDCL), which is the Distribution Utility, the Meghalaya Power Generation Corporation Limited (MePGCL), which is the Generation Utility and the Meghalaya Power Transmission Corporation Limited (MePTCL), which is the Transmission Utility. In a subsequent amendment to the transfer scheme notified on 31.03.2012, the Government has set the date of transfer w.e.f. 01.04.2012.

MePGCL has yet to start its operation independently and all the operations are still being looked after by the holding company i.e. MeECL. The financial statement and the balance sheet for 2012-13 are yet to be prepared and the details of the assets and liabilities are limited to the numbers given in the transfer scheme. However, MeECL provided the Commission the pre-audited balance sheet for 2011-12 for MeECL.

MSERC notified the terms and conditions for determination of tariff regulation on 10.02.2011 which gives the procedure and requirement of filing of the ARR for ensuing year. Regulation 17 provides that each generating company shall file a tariff petition on or before 30th November each year with the Commission which includes statement containing calculation of the expected aggregate revenue from charges under it currently approved tariff and expected cost of providing service. The information for the previous year should be based on audited accounts and in case audited accounts are not available audited accounts of the year immediately preceding the previous year shall be filed along with an unaudited accounts for the previous year. The tariff application shall also contain tariff proposal so as to fully cover the gap if any between the expected revenue and the expected cost of service.

The proceedings of the tariff are governed under the section 61 and 62 of the Electricity Act - 2003 and the regulations made under section 181 of the Act. MePGCL was required to submit the petition by 30.11.2012 for financial year 2013-14. The Commission sent a letter to the Board of Directors to file the Petition in time so that timeliness of the issue of tariff order is maintained by the Commission. The intent of the law is to issue the new tariff before the start of financial year i.e. 01.04.2013. Complying with the Commission's directive, MePGCL filed the ARR application and tariff proposal on 14.12.2012. After the preliminary examination the Commission issued deficiency note to the licensee. The petition contains certain information gaps which were discussed in the technical meeting held on 20.12.2012 with officers of MeECL and their subsidiaries. The deficiency note was communicated to their Board of Directors vide Commission's Letter dated 20.12.2012. The information required was as follows:

General comments:-

1) - Audited/pre-audited financial statement of accounts for the year 2011-12.
   In accordance with the regulations, the information in the ARR for the previous year should be based on audited accounts and in case audited accounts are not available, audited accounts for the year immediately preceding the previous year i.e. 2010-11 should be filed along with un-audited accounts for the previous year i.e. 2011-12.
2) Actual cost and revenue for the period April 2012 onwards for at least 6 months. -
3) Details of equity share capital issued for all subsidiaries of MeECL in accordance with the - provisions of Indian Company Law. -
4) Details of grants received for capital investment made so far. -
5) Details for employees' category wise in each subsidiary of MeECL. -

ARR for Generation Tariff:-

6) - Details of actual Operation & Maintenance expenses for each generating stations for first six months of FY 2012-13 and estimates for the remaining six months (October– March 2013) for FY 2012-13.
7) - As per the regulations tariff has to be determined station wise. MeECL is required to file information station wise for all existing generating stations. This should be based on segregation of data on actual or normative on commercial principles.
8) Details of actual generation from all units in the preceding 5 years. -
9) Proposals for provisional tariff for those generating units where CODs not achieved so far. -

MePGCL submitted some of the required information vide their letter dated 14.1.2013. Keeping in view the desirability for timely completion of the tariff process for the next year 2013-14, the Commission admitted the petition for further processing subject to the condition that the petitioner shall furnish any further information/clarification as deemed necessary by the Commission during the processing of the petition. MePGCL was directed to provide such information and clarification to the satisfaction of the Commission within the time frame as may be stipulated by the Commission failing which the petition would be treated as deemed returned. In the admission order the Commission directed the generating company to publish a notice in leading newspapers widely circulated in the State and seek comments from general public and other stakeholders. MePGCL published the notice in the following newspapers and sought comments by 15.02.2013 from the general public.

TABLE 1 – DETAILS OF PUBLIC NOTICE		
Name of the Newspapers	Date of Publication	Languages
The Shillong Times	18.01.2013	English
U Mawphor	18.01.2013	Khasi
Salantini Janera	19.01.2013	Garo
Chitylli	18.01.2013	Jaintia

Subsequently, the Commission after examination of the petition in detailed found that there are numbers of issues which are important in nature and affect the tariff significantly. The first issue is to work out the designed energy from each power station which will give the annual potential of energy from each station and the second issue is the initial cost of project and the actual cost of the project at the time of commissioning. In view of this, the Commission issued a letter to MePGCL to clarify their stand on the following:

1) - Original detailed project report of Stage I of Myntdu Leshka Hydro Project (2x42 MW) shows 372.69 MU as annual energy potential in a 90% dependable year. Explanation for considering lower energy generation from all three units i.e. 486.23 MU in the ARR for 2013-14.
2) Copies of DPR and techno economic clearances issued by Central Electricity Authority for Leshka stage I & II and other hydro projects.
3) - Estimated approved project cost is shown as 358.38 crores for Stage I Leshka (2x42 MW) projects in the DPR. The details of original project cost approved by CEA for Stage I & II of Leshka Project and actual expenditures made so far is required to be furnished. Break up of cost overruns with controllable and uncontrollable factor should also be submitted.

4) 95% availability of Leshka run of the river plant is envisaged in the DPR. In the ARR the - availability factor is shown as 39 %. Explanation for deviation from the original DPR.

5) - As per the DPR of Stage I, Leshka Stage I has been taken as peak hour plant with 84 MW generation from 2 units though out the year in peak hours. Comments if any from MePGCL on this point may be submitted.

6) - Status of commercial agreements/PPA between MePDCL and MePGCL regarding capacity allocated from each plant, annual expected generation and month wise availability of each plant during the year. Date of execution of PPA may be intimated to the Commission.

7) - Gross fixed assets value as on 01.04.2012 is shown as 314.82 crores for old existing plants of MePGCL. Explanation requires for this estimation for existing old plants.

8) - Details of actual O&M costs including employees in each power stations of MePGCL are still awaited. Employees cost separately during 2011-12 and estimated for 2012-13 and 2013-14 may be submitted.

9) - Detailed working sheet for arriving the value of working capital in 2013-14.

10) In case of unavailability of data for old generating stations, segregation of ARR for these plants can be done on per megawatt installed capacity till such time data is separated. Comments of MePGCL are required on this assumption. Single tariff for all old generating station seems to be inefficient and does not project the performance of each plant correctly.

11) MePGCL is required to work out annual availability of each power station based on the actual generation from each power station in the last five years in accordance with the following CERC formula:

$$\text{Percentage Availability} = \frac{U1\,H1 + U2\,H2 + \ldots\ldots\ldots UN\,HN}{UXH} \times 100$$

Where U1, U2……….UN is the sent out capacity in MW of different units during the period under consideration. H1, H2……….HN are hours for which the respective units were under operation during the period. U is the guaranteed output in MW of the plant during the same period H represents the total number of hours of the period.

Time up to 31.01.2013 was given to MePGCL to file the reply on the above issues so that the Commission may take a balance and reasonable view on the tariff proposal. MePGCL vide their letter dated 11.02.2013 replied that date of commercial operation of unit 1 & 2 of Leshka project is 1st April 2012 and unit 3 is yet to be commissioned. The infirm power generated up to the date of commercial operation of unit 1 & 2 was 21.4 MU. MePGCL intimated that their present approved cost of MLHEP is Rs.1173.13 crores. However, they have spent up to December 2012 Rs.1140.98 crores. MePGCL provided techno economic clearances of Leshka project and their brief explanation at the delay in execution of project. Regarding audited statement of account MePGCL informed that audited accounts of MeECL for the year 2010-11 is yet to be done and they have not separated their account for generation till date.

A technical session was held on 8th February, 2013 in the Office of the Commission to discuss important issues relating to the ARR filed by MePGCL in determining the tariff for existing and new power plants. The Commission deliberated on each component of the ARR and its significance in determination of the tariff. A presentation was made by MePGCL showing the details of each component of cost and minimum fund requirement on the basis of projected ARR for 2013-14. The Commission emphasised in the meeting to get the actual costs incurred in last six months on the basis of accounting records for existing plant as well as new plants. MePGCL agreed to give the actual expenses of past six months from April to September 2012 by 13th February, 2013. The Commission explained the provisions of the Tariff Regulations 2011 in determining the annual fixed charges and recovery of the same through two part tariff. He explained that 50% of the cost shall be recovered through fixed charges provided that MePGCL machine if it is available to generate. Remaining 50% of AFC shall be paid by MePDCL on the basis of the unit costs on the total generation. It was emphasised that this kind of tariff shall encourage the generating stations to optimise their plant and generate maximum. MePGCL agreed to this approach. Similarly, to optimise the existing plants, the Commission tried to allocate the total fixed charges on each plant on the basis of their installed capacity and generation so as to give separate tariff for each plant. MePGCL agreed to this approach. It was also agreed in the meeting that designed energy may be worked out on the basis of previous five years data of generation which was made available to the Commission in the tariff proceedings. The Commission pointed out in the meeting that in accordance with Regulation all new projects which are commissioned after notification of the Regulations, tariff shall be fixed only after getting the project costs details duly audited by statutory auditors. Director, MePGCL submitted that after COD of Leshka HEP is achieved they will approach CEA for vetting the capital cost of the project. Till such time MePGCL agreed upon to get an interim tariff of Leshka as may be allowed by the Commission.

After conducting a number of technical sessions with the utilities, staff, Members of the Advisory Committee and public hearing, the Commission on the basis of the records submitted by the generating company passed this order for determining annual fixed charges for FY 2013-14.

ARR for FY 2013-14 – Existing Generating Stations

MePGCL proposed the following for determination of tariffs for generating stations.

Segregation of Financials

The segregation of annual accounts for restructured entities is yet to be finalized and provisional figure of Opening Balance of Gross Fixed Assets is available. The closing balance of GFA of MePGCL as on 31st March, 2012 is Rs 314.82 Crores.

Based on the notification of Government of Meghalaya, Annual Accounts of MeECL are to be restructured and segregated to give effect to the said notified Transfer Scheme. Pursuant to Meghalaya Power Sector Reforms Transfer Scheme 2010 (as amended in 2012), the Assets and Liabilities including rights, obligations and contingencies is transferred to and vested in MePGCL from MeECL on and from 01/04/2012. Transfer of Assets and Liabilities to MePGCL is based on the provisional financials of MeECL.

Existing Generation Capacity

The initial installed capacity when the erstwhile Meghalaya State Electricity Board (MeSEB) was bifurcated from the Assam State Electricity Board (ASEB) in 1975 was 65.2 MW. With the commissioning of Stage-III HEP (1979), Stage IV HEP (1992) & Micro Hydel, the installed capacity increased by 121.5 MW. All the Generating Stations except Sonapani Micro Hydel Project, as indicated in the Table below are hydel power stations with the main reservoir at Umiam for all the stages. Therefore, all these stages depend mainly on water availability at the Umiam reservoir. The total installed capacity of MePGCL projects are as under:

Details of Existing Generation Capacity

No.	Name of Station	No. of Units	Capacity (MW)	Total Capacity (MW)	Year of Commissioning
1.	Umiam Stage I	I	9	36	21.02.1965
		II	9		16.03.1965
		III	9		06.09.1965
		IV	9		09.11.1965
2.	Umiam Stage II	I	10	20	22.07.1970
		II	10		24.07.1970
3.	Umiam Stage III	I	30	60	6.01.1975
		II	30		30.03.1979
4.	Umiam Stage IV	I	30	60	16.09.1992
		II	30		11.08.1992
5.	Umtru Power Station	I	2.8	11.2	01.04.1957
		II	2.8		01.04.1957
		III	2.8		01.04.1957
		IV	2.8		12.07.1968
6.	Micro Hydel (Sonapani)	I	1.5	1.5	27.10.2009
	Total			**186.7**	

New Generation Capacity

MePGCL is currently executing works of hydro electric projects which are proposed for commissioning in near future or commissioned recently as under:

Details of New Generating Stations

No.	Name & Location	Capacity (MW)	Year of Commencement	Schedule Date of Commissioning / COD
1	Leshka HEP	42 x 3 = 126	2004	Unit I – 1.4.2012 Unit II – 1.4.2012 Unit III – Mar/April 2013
2	Lakroh SHP	1.5	2003	Jan 2013

The computation of energy, provisional capital cost and other costs for the new projects as indicated in Table above are discussed in subsequent sections.

Computation of Generation Energy

The following sections outline details of operational norms for computation of energy generation for FY 2013-14 based on Tariff Regulations, 2011 or past trend as the case may be.

Operation Norms

The following sections provide the extract of the Tariff Regulations, 2011 with respect to computation of generation energy.

a) Normative Annual Plant Availability Factor

No.	***Station Particular***	***Norm***
1	*Storage and pondage type plants: where plant availability is not affected by silt and*	
a	*with head variation between Full Reservoir Level (FRL) and Minimum Draw Down Level (MDDL) of upto 8 %*	*90 %*
b	*with head variation between FRL and MDDL of more than 8%*	*(Head at MDDL/Rated Head) x 0.5 + 0.2*

No.	Station Particular	Norm
2	*Pondage type plant*	*where plant availability is significantly affected by silt - 85%*
3	*Run –of- River type plants*	*NAPAF to be determined plant-wise, based on 10-day design energy data, moderated by past experience where available / relevant.*

Note:

(i) A further allowance may be made by the Commission under special circumstances, eg. Abnormal silt problem or other operating conditions, and known plant limitations.

(ii) A further allowance of 5 % may be allowed for difficulties in the North East Region.

(iii) In case of new hydro electric project the developer shall have the option of approaching the Commission in advance for further above norms.

b) Auxiliary Consumption

No	Station Particular	Norm
1	*Surface hydro electric power generating stations with rotating exciters mounted on the generator shaft*	*0.7% of energy generated*
2	*Surface hydro electric power generating stations with static excitation system*	*1.0% of energy generated*
3	*Underground hydro electric power generating stations with rotating exciters mounted on the generator shaft*	*0.9% of energy generated*
4	*Underground hydro electric power generating stations with static excitation system*	*1.2% of energy generated*

c) Transformation Losses

From generation voltage to transmission voltage ……0.5% of energy generated.

Design Energy – Existing Generating Stations

The design energy for MePGCL power stations is provided in the table below:

Design Energy

Name of Power Station	Design Energy (MU)
Umiam Stage I	60.70
Umiam Stage II	29.50
Umiam Stage III	115.30
Umiam Stage IV	129.50
Umtru Power Station	82.30
Micro Hydel (Sonapani)	6.43

The month wise and station wise design energy is provided in the Formats HG3 & HG4.

Computation of Energy Generation - Existing Stations

The computation of hydro power generation requires Design Energy, Capacity Index, Details of Reservoir levels, Head details, Past Availability details, features of the hydro power plants in terms of type of plant, type of excitation etc which are provided in the table below:

Features of Hydro Power Plants

Sr. No.	Particulars	Umtru	Umiam-I	Umiam-II	Umiam-III	Umiam-IV	Micro Hydel (Sonapani)
1	**Type of Station**						
a	*Surface/ Underground*	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE
b	*Purely ROR/ Pondage/ Storage*	ROR	STORAGE	POWER CHANNEL (Pondage)	PONDAGE	PONDAGE	ROR
c	*Peaking/Non Peaking*	NON PEAKING	NON PEAKING	NON PEAKING	NON PEAKING	NON PEAKING	NON PEAKING
d	*No. of hours Peaking*	NA	NA	NA	NA	NA	NA
e	*Overload Capacity (MW) & Period*	NIL	NIL	NIL	NIL	NIL	NA
2	**Type of Excitation**						
a	*Rotating exciters on Generator*	Rotating exciters on Generator	Rotating exciters on Generator	Rotating exciters on Generator	Rotating exciters on Generator	NA	Rotating exciters on Generator
b	*Static excitation*	NA	NA	NA	NA	Static Excitation	NA

Computation of NAPAF for Storage and Pondage type plants: -

Based on the above details and the norms specified by Tariff Regulations, 2011, the computation of -NAPAF for Storage and Pondage type hydro generating stations is carried out as under: -

Computation of Head Variation for Storage & Pondage plants

Name of Power Station	FRL (mtrs)	MDDL (mtrs)	Maximum Head	Minimum Head	% Head Variation
Umiam Stage I	981.46	960.12	169.0	130.0	23.08%
Umiam Stage II	804.06	800.85	81.7	75.1	8.06%
Umiam Stage III	679.70	672.05	162.0	146.0	9.88%
Umiam Stage IV	503.00	496.00	162.0	131.0	19.14%

For all power stations, the head variation between FRL and MDDL is more than 8%. Hence, an allowance is to be provided in NAPAF as indicated in the table below:

Computation of NAPAF for Storage & Pondage plants

Name of Power Station	% Head Variation	Rated Head	Head at MDDL (Min Head)	NAPAF (Head at MDDL / Rated head) x 0.5+0.2
Umiam Stage I	23.08%	145.0	130.0	64.83%
Umiam Stage II	8.06%	77.7	75.1	68.35%
Umiam Stage III	9.88%	150.0	146.0	68.67%
Umiam Stage IV	19.14%	140.0	131.0	66.79%

Computation of NAPAF for Pondage type plants:

Pondage type plants where plant availability is significantly affected by silt is 85% is as per norms provided in Tariff Regulations, 2011. Umtru is the only plant under this category and accordingly, MePGCL is projecting NAPAF of **85.00%** as per regulations. However considering further allowance of 5% for difficulties in north east region, the proposed NAPAF for Umtru is **80.00%.**

Computation of NAPAF for Run of River type plants:

As per regulations, the NAPAF for Run of River type plants is to be determined based on 10-day design energy data, moderated by past experience wherever relevant. From the existing power plants, only Sonapani belongs to purely Run of River project category. Therefore, based on the past records and as per norm given in regulation, the NAPAF works out to **50.00%**. However considering further allowance of 5% for difficulties in north east region, the proposed NAPAF for Sonapani is **45.00%**.

In view of the above, a further allowance of 5% may be allowed by the Commission for all the MePGCL Power stations as indicated below:

Proposed NAPAF for MePGCL Power Stations for FY 2013-14

Name of Power Station	NAPAF (%) as per workings	NAPAF (%) with 5% allowance
Umiam Stage I	64.83%	59.83%
Umiam Stage II	68.35%	63.35%
Umiam Stage III	68.67%	63.67%
Umiam Stage IV	66.79%	61.79%
Umtru Power Station	85.00%	80.00%
Micro Hydel (Sonapani)	50.00%	45.00%

The station-wise Net Generation for FY 2012-13 and FY 2013-14 are provided in the table below:

Station wise Net Generation FY 2012-13

Sr. No.	Name of Power Station	Gross Generation (MU)	Aux Cons (%)	Transformation Loss (%)	Aux Cons & Transformation Loss (MU)	Net Generation (MU)
1	Umiam Stage I	110.22	0.70%	0.50%	1.32	108.90
2	Umiam Stage II	55.33	0.70%	0.50%	0.66	54.67
3	Umiam Stage III	138.01	0.70%	0.50%	1.66	136.35
4	Umiam Stage IV	194.41	1.00%	0.50%	2.92	191.49
5	Umtru Power Station	25.20	0.70%	0.50%	0.30	24.90
6	Micro Hydel (Sonapani)	5.44	0.70%	0.50%	0.07	5.37
7	**Total**	**528.61**			**6.93**	**521.68**

Station wise Net Generation FY 2013-14

Sr. No.	Name of Power Station	Gross Generation (MU)	Aux Cons (%)	Transformation Loss (%)	Aux Cons & Transformation Loss (MU)	Net Generation (MU)
1	Umiam Stage I	108.30	0.70%	0.50%	1.30	107.00
2	Umiam Stage II	54.66	0.70%	0.50%	0.66	54.00
3	Umiam Stage III	133.60	0.70%	0.50%	1.60	132.00
4	Umiam Stage IV	201.02	1.00%	0.50%	3.02	198.00
5	Umtru Power Station	26.32	0.70%	0.50%	0.32	26.00
6	Micro Hydel (Sonapani)	6.07	0.70%	0.50%	0.07	6.00
7	**Total**	**529.96**			**6.96**	**523.00**

The station wise summary for generation for FY 2011-12, FY 2012-13 and FY 2013-14 is presented below:

Station wise Summary of Generation FY 12 to FY 14

Sr. No.	Name of Power Station	FY 2011-12 (Pre-audit)	FY 2012-13 (Estimated)	FY 2013-14 (Projected)
1	Umiam Stage I	109.62	110.22	108.30
2	Umiam Stage II	13.00	55.33	54.66
3	Umiam Stage III	129.26	138.01	133.60
4	Umiam Stage IV	206.63	194.41	201.02
5	Umtru Power Station	38.41	25.20	26.32
6	Micro Hydel (Sonapani)	6.07	5.44	6.07
7	**Gross Generation (MU)**	**502.98**	**528.61**	**529.96**
8	Auxiliary consumption & Transformation Loss (MU)	7.04	6.93	6.96
9	**Net Generation (MU)**	**495.94**	**521.68**	**523.00**

MePGCL submitted before the Commission to kindly approve the total net generation as shown in table above for existing power stations of MePGCL.

Components of Tariff

The Regulation 52 provides for components of tariff which is extracted below for reference.

52. Components of tariff

(1) Tariff for supply of electricity from a hydro power generating station shall comprise of two parts, namely, annual capacity charges and energy charges to be in the manner provided hereinafter.

(2) The fixed cost of a generating station eligible for recovery through annual capacity charges shall consist of:

(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 by the Commission.

(f) Taxes on Income

Accordingly, MePGCL computes and provides herewith various cost elements for determination of tariff.

Gross Fixed Assets

The provisional Gross Fixed Assets (GFA) as on 31st March 2012 for segregated entity of Generation Company is Rs. 314.82 Crores. As submitted earlier (approach for determining station wise project cost or GFA); MePGCL computed GFA for Old Projects and other plants.

Determination of Station-wise Gross Fixed Assets

It is submitted that MePGCL attempted to bifurcate station wise GFA for existing & new projects. The table below provides station wise GFA as on 31.03.2012.

Station wise Gross Fixed Assets – Old Stations

Particulars	GFA (Rs.Crs)
Value of Gross Fixed Assets as on 31.03.12	314.82
Less: Station wise Project Cost	
Micro Hydel (Sonapani)	10.86
Balance cost for Old Projects (Umiam Stage I to IV & Umtru)	**303.96**

Closing Station-wise Gross Fixed Assets for FY 2013-14

Based on the above computed station wise GFA as on 1.04.2012, the closing GFA for FY 2013-14 are worked out considering additions / R&M for each station. The table below provides station wise closing GFA for FY 2013-14.

Station wise Closing Gross Fixed Assets – Old Stations

Particulars	Old Projects (Rs.Crs)	Sonapani (Rs.Crs)	Total (Rs.Crs)
Opening GFA as on 1.4.2012	303.96	10.86	**314.82**
Add: Additions to GFA during FY 2012-13	-	-	**-**
Less: Retirements to GFA during FY 2012-13	-	-	**-**
Closing GFA as on 31.3.2013	**303.96**	**10.86**	**314.82**
Opening GFA as on 1.4.2013	303.96	10.86	**314.82**
Add: Additions to GFA during FY 2013-14	-	-	**-**
Less: Retirements to GFA during FY 2013-14	-	-	**-**
Closing GFA as on 31.3.2014	**303.96**	**10.86**	**314.82**

MePGCL submitted before the Commission to approve the computed station wise Gross Fixed Assets for FY 2013-14.

Determination of Return on Equity

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

51. Debt equity ratio

1) For the purpose of determination of tariff, debt-equity ratio in the case of a new generating station commencing commercial operations after the notification of these regulations shall be 70:30. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance shall be treated as normative loan. Where actual equity employed is less than 30%, the actual equity employed shall be considered.

2) In the case of existing generating stations the debt equity ratio as per the Balance Sheet on the date of the Transfer notification will be the debt equity ratio for the first year of operation, subject to such modification as may be found necessary upon audit of the accounts if such Balance Sheet is not audited.

As per State Government Notification No. 37 dated 31.03.12, equity for MePGCL has been notified at Rs 248.4 Crores and the same is considered as equity of old assets except Sonapani for calculation of RoE. The equity notified is shown at page no. 378 of the above notification attached as ANNEXURE-I.

The relevant regulations for computation of return on equity are extracted for reference as below:

53. Return on Equity

(1) Return on equity shall be computed on the equity base determined in accordance with regulation 51 and shall not exceed 14 %.

Provided that incase if 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 specified in CERC Tariff Regulations, 2009. (Refer Annuxure-1)

Provided that in case of 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 or 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.

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

(3) Internal resources created out of free reserves and utilized for meeting the capital expenditure shall also be treated as a part of equity.

(4) Foreign equity will also attract the same rate of return.

It is submitted that MePGCL has considered the Return on Equity (RoE) at the rate of 14%. The table below provides herewith the station wise computation of RoE for FY 2013-14.

Return on Equity for FY 2013-14 – Old Stations

Particulars	Unit	Old Assets	Sonapani	Total
Total Equity Amount	Rs.Crs	248.40	4.11	**252.51**
Equity Amount Considered for RoE	Rs.Crs	91.19	3.26	**94.45**
Return on Equity	%	14%	14%	
Return on Equity	**Rs.Crs**	**12.77**	**0.46**	**13.22**

Note: *For old assets including Sonapani the actual equity is more than 30% of the total GFA. Hence for calculation of RoE, Equity is limited to 30%*

MePGCL submitted before the Commission to approve the RoE of Rs. 13.22 Crs for FY 2013-14 for existing generating stations including Sonapani.

Long Term Loans and Interest on Long Term Loans

The relevant regulations for computation of long term loans and interest thereon are extracted for reference as below:

54. Interest and finance charges on loan capital

(1) 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 prevailing therein.

Provided that the outstanding loan capital shall be adjusted to be consistent with the loan amount determined in accordance with Regulation 51.

(2) The interest and finance charges attributable to Capital Work in Progress shall be excluded.

(3) The generating company 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.

(4) 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 generating company in a ratio as may be specified by the Commission as envisaged in Regulation 13.2.

(5) In case any moratorium period is availed of by the generating company, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

It is submitted that the interest on long term loans is claimed only for projects which have actual loan outstanding. According to the records and information, there is no outstanding loan for Old Projects except for R & M of Umiam Stage I & II. However the loan for R & M of Stage I & II will be paid by Central Government and also Loan Agreement provides for moratorium period of 10 years on both Principle and Interest payment. Therefore no Interest on Loan is claimed for old projects.

Depreciation

The relevant regulations for computation of deprecation are extracted for reference as below:

Regulation 57 - Depreciation

(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.

(f) Depreciation shall be calculated annually as per straight – line method at the rates specified in Appendix-III of CERC (Terms and Conditions of Tariff) of Regulations, 2009.

(g) The remaining depreciable value as on 31st March of the year closing after a period of 12 years from the date of commercial operation shall be spread over the balance useful life of the asset.

(i) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro-rata basis.

Determination of Deprecation for old assets:

It is submitted that the useful life for old Generating stations except for R & M of Umiam Stage-I and Umiam Stage-IV, is already completed. Therefore no depreciation is proposed on below projects/ assets.

- Stage I
- Stage II
- Stage III
- Umtru

Determination of Depreciation for Sonapani (Micro Hydel):

It is submitted that the depreciation for Sonapani (Micro Hydel) is computed considering available project cost and depreciation as per Tariff Regulations, 2011. The table below provides depreciation for Sonapani (Micro Hydel) for FY 2013-14.

Depreciation for Sonapani (Micro Hydel) for FY 2013-14

Particulars	Unit	Unit	Rs. Crs
Project Cost (After deducting temporary construction)	Rs.Crs	a	10.60
Depreciable Asset Value @ 90%	Rs.Crs	b =a * 90%	9.54
Depreciation Rate as per Appendix-III	%	c	5.28%
Depreciation value for FY 2013-14	Rs.Crs	d=c *a	**0.50**

MePGCL submitted before the Commission to approve the total depreciation of Rs. 14.61 Crores for FY 2013-14 for existing generating stations as summarized in below table.

Total Depreciation for Existing Stations for FY 2013-14

Particulars	Rs. Crs
Depreciation for Old Assets	14.11
Depreciation for Sonapani	0.50
Total Depreciation	**14.61**

Operation & Maintenance expenses (O & M expenses)

The relevant regulations for computation of O&M expenses are extracted for reference as below:

Regulation 55 - Operation & Maintenance expenses

(1) Operation and Maintenance Expenses (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.

(2) O & M expenses shall include employee cost, repairs & maintenance and Administration & General expenses. O & M expenses for the existing generating stations, which have been in operation for 5 years or more in the base year 2007-08 shall be derived on the basis of actual operation and maintenance expenses for the year 2003-04 to 2007-08, based on the audited accounts, excluding abnormal operation and maintenance expenses, if any, after prudent check by the Commission.

(3) The normalized operation and maintenance expenses after prudent check, for the years 2003-04 to 2007-08, shall be escalated at the rate of 5.17% to arrive at the normalized operation and maintenance expenses at the 2007-08 price level and then averaged to arrive at normalized O&M expenses for 2003-04 to 2007-08 price level. The average normal O&M expenses at 2007-08 price level shall be escalated at the rate of 5.72% to arrive at the O&M expenses for the year 2009-10.

(4) The O&M expenses for the year 2009-10 shall be further rationalized considering 50% increase in employee cost on account of pay revision of employees to arrive at the permissible O&M expenses for the year 2009-10.

(5) The O&M expenses for 2009-10 shall be escalated further at the rate of 5.72% per annum as arrive at the operation and maintenance expenses for the subsequent years of the tariff period.

(6) In case of the hydro generating stations, which have not been in commercial operation for a period of five years as on 1.4.2009, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation & resettlement works). Further, in such case, operation and maintenance expenses in first year of commercial operation shall be escalated @5.17% per annum up to the year 2007-08 and then averaged to arrive at the O&M expenses at 2007-08 price level. It shall be thereafter escalated @ 5.72% per annum to arrive at operation and maintenance expenses in respective year of the tariff period. (The impact of pay revision on employee cost for arriving at the operation and maintenance expenses for the year 2009-10 shall be considered in accordance with the procedure given in proviso to sub-clause (ii) of clause (f) of this regulation).

(7) In case of hydro generating stations declared under commercial operation on or after 01/04/2009, O&M expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation and resettlement works) and shall be subject to annual escalation at 5.72% for the subsequent years.

The above regulations classify operation and maintenance expenses in three categories:

- Hydro Generating Stations in operation for a period of **more than 5 years as on 1.4.2009; (say Category 'A')**
- Hydro Generating Stations in operation for a period of **less than 5 years as on 1.4.2009; (say Category 'B')**
- Hydro Generating Stations declared under commercial operation on or after 1.4.2009; **(say Category 'C')**

Accordingly, MEPGCL has categorized its power station for computation of O&M expenses.

Classification of Hydro Projects for O&M Purpose

No.	Name of Station	No. of Units	Capacity (MW)	Total Capacity (MW)	COD	Project Classification
1.	Umiam Stage I	I	9	36	21.02.1965	**A**
		II	9		16.03.1965	**A**
		III	9		06.09.1965	**A**
		IV	9		09.11.1965	**A**

No.	Name of Station	No. of Units	Capacity (MW)	Total Capacity (MW)	COD	Project Classification
2.	Umiam Stage II	I	10	20	22.07.1970	**A**
		II	10		24.07.1970	**A**
3.	Umiam Stage III	I	30	60	6.01.1975	**A**
		II	30		30.03.1979	**A**
4.	Umiam Stage IV	I	30	60	16.09.1992	**A**
		II	30		11.08.1992	
5.	Umtru Power Station	I	2.8	11.2	01.04.1957	**A**
		II	2.8		01.04.1957	**A**
		III	2.8		01.04.1957	**A**
		IV	2.8		12.07.1968	**A**
6.	Micro Hydel (Sonapani)	I	1.5	1.5	27.10.2009	**C**
	Total			**186.7**		

As can be seen from the above table, MePGCL projects fall under category **'A'** and **'C'**. Accordingly, MePGCL has computed O&M expenses for FY 2013-14 for these projects.

The O&M expenses for Category **'A'** needs to be computed based on past data for FY 2003-04 to FY 2007-08. The O&M expenditure for Category 'A' is computed as per Regulation 55(2), 55(3), 55(4) and 55(5) of Tariff Regulations, 2011.

It is submitted that as per Audited Accounts Statement-6, the data for elements of O&M is extracted and average base value figures are derived at for FY 2007-08. The Statement-6 provides function wise analysis of O&M elements into Generation, Transmission, Distribution and Others (Stores organization & Management & Administration). Hence the O&M expenses classified/ related to Others are further allocated/ apportioned to Generation, Transmission & Distribution (GTD) in the ratio of GTD expenses. The table below provides the extract of O&M expenses from FY

2003-04 to FY 2007-08 for GTD and computation of GTD Ratio.

Computation of GTD Ratio of O&M Expenses (FY04 to FY08)

O & M Expenditure - Generation (As per Audited Accounts - Statement 6)					
Particulars	**FY'04**	**FY'05**	**FY'06**	**FY'07**	**FY'08**
Repairs & Maintenance	3.43	3.74	4.07	6.98	6.52
Employee Costs	5.58	6.08	7.29	17.00	14.55
Administration and General Expenses	0.39	1.18	0.67	1.36	1.95
Total - Rs.Crores	**9.40**	**11.00**	**12.03**	**25.34**	**23.02**

O & M Expenditure - Transmission (As per Audited Accounts - Statement 6)					
Particulars	**FY'04**	**FY'05**	**FY'06**	**FY'07**	**FY'08**
Repairs & Maintenance	2.98	2.23	0.94	0.95	1.57
Employee Costs	4.98	6.08	5.39	6.33	7.39
Administration and General Expenses	0.40	1.18	0.52	0.55	0.99
Total - Rs.Crores	**8.36**	**9.49**	**6.85**	**7.83**	**9.95**

O & M Expenditure - Distribution (As per Audited Accounts - Statement 6)					
Particulars	**FY'04**	**FY'05**	**FY'06**	**FY'07**	**FY'08**
Repairs & Maintenance	0.06	3.93	6.85	4.33	9.04
Employee Costs	26.48	26.60	29.03	32.15	39.91
Administration and General Expenses	1.45	1.48	1.82	2.44	2.54
Total - Rs.Crores	**27.99**	**32.01**	**37.70**	**38.92**	**51.49**

Total O & M Expenditure - (GTD) and Computation of GTD Ratio					
Particulars	**FY'04**	**FY'05**	**FY'06**	**FY'07**	**FY'08**
Generation	9.40	11.00	12.03	25.34	23.02
Transmission	8.36	9.49	6.85	7.83	9.95
Distribution	27.99	32.01	37.70	38.92	51.49
Total - Rs.Crores	**45.75**	**52.50**	**56.58**	**72.08**	**84.46**
Generation - Ratio	21%	21%	21%	35%	27%
Transmission - Ratio	18%	18%	12%	11%	12%
Distribution - Ratio	61%	61%	67%	54%	61%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

The table below provides details of O&M expenses for Others i.e. Stores Organisation, Management & Administration.

O&M Expenses – Others (FY 04 to FY08)

O & M Expenditure - Others (As per Audited Accounts - Statement 6)					
Particulars	**FY'04**	**FY'05**	**FY'06**	**FY'07**	**FY'08**
Repairs & Maintenance	0.34	0.21	0.14	0.35	0.10
Employee Costs	24.13	25.63	29.97	27.11	34.07
Administration and General Expenses	1.42	1.35	1.67	2.13	1.83
Total - Rs.Crores	**25.89**	**27.19**	**31.78**	**29.59**	**36.00**

The table below provides the allocation of Others O&M expenses to Generation function in the computed Generation, Transmission & Distribution (GTD) ratio.

Allocation of Other O&M Expenses to Generation (FY 04 to FY08)

Allocation of Others O & M Expenditure to Generation as per GTD Ratio					
Particulars	**FY'04**	**FY'05**	**FY'06**	**FY'07**	**FY'08**
Repairs & Maintenance	0.07	0.04	0.03	0.12	0.03
Employee Costs	4.96	5.37	6.37	9.53	9.29
Administration and General Expenses	0.29	0.28	0.35	0.75	0.50
Total	**5.32**	**5.70**	**6.76**	**10.40**	**9.81**

The total of O&M expenses for Generation function after allocation of others cost for FY 2003-04 to FY 2007-08 is presented in table below:

Total of O&M Expenses for Generation after Allocation (FY 04 to FY08)

Total of O & M Expenditure for Generation after Allocation					
Particulars	**FY'04**	**FY'05**	**FY'06**	**FY'07**	**FY'08**
Repairs & Maintenance	3.50	3.78	4.10	7.10	6.55
Employee Costs	10.54	11.45	13.66	26.52	23.84
Less: Employee Expenses Capitalised	*0.54*	*0.87*	*1.18*	*2.04*	*1.86*
Net Employee Cost	9.99	10.58	12.48	24.49	21.97
Administration and General Expenses	0.68	1.46	1.02	2.11	2.45
Less: A & G Expenses Capitalised	*0.22*	*0.40*	*0.29*	*0.55*	*0.99*
Net A & G Expenses	0.46	1.06	0.74	1.56	1.46
Total	**13.96**	**15.42**	**17.32**	**33.15**	**29.97**

The computation of base value after averaging for above 5 years and escalating by 5.17% to arrive at normalized price level of FY 2007-08 is presented in the table below:

Computation of O&M Expenses for Generation at Base Level FY 2007-08

Computation of Base O&M Expenses for Generation at FY 2007-08 Level							
Particulars	**FY'04**	**FY'05**	**FY'06**	**FY'07**	**FY'08**	**Average of 5 Years**	**Base Value after 5.17% increase**
R&M Expenses	3.50	3.78	4.10	7.10	6.55	5.01	5.27
Employee Costs	9.99	10.58	12.48	24.49	21.97	15.90	16.72
A&G Expenses	0.46	1.06	0.74	1.56	1.46	1.06	1.11
Total	**13.96**	**15.42**	**17.32**	**33.15**	**29.97**	**21.96**	**23.10**

Further the computation of O&M expenses for FY 2013-14 after considering 50% increase in employee cost for FY 2009-10 and escalating by 5.72% every year is computed as per Regulation 55(4) and 55(5) of Tariff Regulations 2011. The table below provides details of O&M expenses for FY 2013-14.

O&M Expenses for Generation for FY 2013-14 (Category A)

Particulars	O&M for FY 09 after 5.72% escalation	50% Increase in Employee Cost for FY 10	Revised figures after increase	O&M for FY 10 after 5.72% escalation	O&M for FY 11 after 5.72% escalation	O&M for FY 12 after 5.72% escalation	O&M for FY 13 after 5.72% escalation	O&M for FY 14 after 5.72% escalation
R&M Expenses	5.57	-	5.57	5.89	6.22	6.58	6.95	7.35
Employee Costs	17.68	8.84	26.52	28.04	29.64	31.34	33.13	35.02
A&G Expenses	1.17	-	1.17	1.24	1.31	1.39	1.47	1.55
Total	**24.42**	**8.84**	**33.26**	**35.16**	**37.17**	**39.30**	**41.55**	**43.93**

MePGCL submitted before the Commission to approve the O&M expenses of Rs. 43.93 Crores for FY 2013-14 for existing generating stations of 'A' category.

The O&M expenses for Category 'C' of power station i.e. Sonapani (Micro Hydel) is to be computed as per Regulation 55 (7) of Tariff Regulations, 2011.

(7) In case of hydro generating stations declared under commercial operation on or after 01/04/2009, O&M expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation and resettlement works) and shall be subject to annual escalation at 5.72% for the subsequent years.

The table below provides the computation of O&M expenses for Sonapani for FY 2013-14.

O&M Expenses for Generation for FY 2013-14 (Category C)

Particulars	Rs.Crs
Project Cost	10.86
O&M Expenses for FY 2009-10 (2% of PC)	0.22
O&M Expenses for FY 2010-11 (5.72% escalation over prev. year)	0.23
O&M Expenses for FY 2011-12 (5.72% escalation over prev. year)	0.24
O&M Expenses for FY 2012-13 (5.72% escalation over prev. year)	0.26
O&M Expenses for FY 2013-14 (5.72% escalation over prev. year)	**0.27**

MePGCL submitted before the Hon'ble Commission to approve the O&M expenses - of Rs. 0.27 Crores for Sonapani. -

The table below summarizes O&M expenses for existing generating stations for FY - 2013-14. -

Total O&M Expenses for Existing Stations for FY 2013-14

Particulars	Rs.Crs
O&M Exp - Category A (Old Assets)	43.93
O&M Exp - Category C	0.27
Total O&M Expenses	**44.20**

MePGCL submitted before the Commission to approve the total O&M expenses of Rs. 44.20 Crores for existing generating stations for FY 2013-14.

Interest on Working Capital

The relevant regulations for computation of working capital and interest on working capital thereon are extracted for reference as below:

Regulation 56

(1) Working Capital shall cover:

1) Operation and Maintenance expenses for one month;

2) Maintenance spares at the rate of 15% of operation and maintenance expenses

specified in Regulation 55 above escalated at the rate of 6% per annum from the date of commercial operation and

3) Receivables equivalent to two months of fixed cost.

(2) Rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1st April of the financial year for which the generating station files petition for annual Revenue Requirement and tariff proposal. The interest on working capital shall be calculated on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

The computation of working capital and interest on working capital for FY 2013-14 as per above regulation is provided in the table below:

Interest on Working Capital for FY 2013-14

Particulars	Old Assets	Sonapani	Total (Rs.Crs)
O & M Expenses for 1 month	3.66	0.023	**3.68**
Maintenance Spares @15% of O&M plus escalated by 6%	6.98	0.043	**7.03**
Receivables @ 2 months of Fixed Cost	12.56	0.214	**12.77**
Total Working Capital requirement	**23.21**	**0.279**	**23.48**
Computation of working capital interest			
SBI PLR as on 1.4.2012 (%)	14.75%	14.75%	
Interest on Working Capital	**3.42**	**0.041**	**3.46**

MePGCL submitted before the Commission to approve Interest on working capital of Rs. 3.46 Crores for FY 2013-14.

Tax on Income

The Regulation 58 of Tariff Regulations 2011 provide for claim of Income Tax as expenses. However MePGCL submitted that since this being first independent filing for generation function and also due to fact that audited accounts of segregated are in process, income tax shall be claimed in subsequent filings in annual performance review/ true-up.

Connectivity and SLDC Charges

The Regulation 61 of Tariff Regulations 2011 provides for claim of SLDC & Connectivity charges as expenses. MePGCL submitted as per information received from SLDC the SLDC charge applicable to the Existing Generating Stations is as mentioned below:

SLDC Charges applicable to existing generating stations

Sl. No	Particular	Annual SLDC Charge (Rs Cr)
1	Umiam Stage I	0.23
2	Umiam Stage II	0.13
3	Umiam Stage III	0.38
4	Umiam Stage IV	0.38
5	Umtru Power Station	0.08
6	Micro Hydel (Sonapani)	0.01

Summary of Annual Fixed Cost – Existing Generating Stations

The summary of the Annual Fixed Cost for the existing generating stations is provided in the table below:

Station Wise Annual Fixed Cost – Existing Stations FY 2013-14

Particulars	Old Assets	Sonapani	Total (Rs.Crs)
Interest on Loan capital	-	-	-
Depreciation	14.11	0.50	**14.61**
O&M Expenses	43.93	0.27	**44.20**
Interest on working capital	3.42	0.04	**3.46**
Return on Equity	12.77	0.46	**13.22**
Income Tax	-	-	-
SLDC Charge	1.19	0.01	**1.20**
Total Annual Fixed Cost	**75.41**	**1.28**	**76.69**
Less: Non Tariff Income	0.05	-	**0.05**
Net Annual Fixed Cost	**75.36**	**1.28**	**76.64**

MePGCL submitted before the Commission to approve the Annual Fixed Cost of Rs. 76.64 Crores for FY 2013-14 for existing generating stations.

Provisional Capital Cost and Tariff Determination – Leshka

Regulation 47 – Tariff Filing

(2) (a) In case of a new generating station, a generating company shall file petition for determination of provisional tariff in advance of the anticipated date of commissioning of a generating station based on the capital expenditure actually incurred up to the date of making the petition or a date prior to making of the petition, duly audited and certified by the statutory auditors and the provisional tariff shall be charged from the date of commercial operation of the generating station.

(b) A generating company shall file a fresh petition as per these regulations, for determination of final tariff of a generating station mentioned in clause (2) above based on actual capital expenditure incurred up to the date of commercial operation of the generating station duly certified by the statutory auditors based on annual audited accounts.

(3) Any difference between the provisional tariff and the final tariff determined by the Commission and not attributable to the generating company may be adjusted in the tariff for the following year as directed by the Commission.

Based on the above provisions, tariff petition is submitted determination of Provisional Tariff for Leshka HEP.

Provisional capital Cost:

Regulation 49 – Capital Cost

(2) Scrutiny of cost estimates by the Commission shall be limited to the reasonableness of the capital cost, financial plan, and interest during construction period, use of efficient technology, and such other matters for determination of tariff.

(6) The project cost already admitted by the Commission for purpose of tariff determination shall be considered as the original project cost.

Based on the above provisions, estimated Project Cost is submitted to Commission for approval.

Details of Project Cost - Leshka

Particulars	Amount Rs. Crs
Land	22.08
Buildings	34.85
Hydraulic Works	714.26
Other Civil Works	97.55
Plant & Machinery	301.39
Lines & Cables Network	0
Vehicles	1.05
Furniture	0.91
Other Office Equipment	1.04
Total	**1173.13**

Tariff determination

Regulation 49 – Tariff Determination

(2) New Generating Station

Where the generating station has been declared under commercial operation from a date after the issue of these regulations the tariff for supply of electricity by the Generating Company shall be decided in accordance with these regulations.

As the commissioning date of Leshka HEP is after issue of these regulations, MePGCL submitted this petition to Commission for determination of Generation Tariff as per Tariff Regulations, 2011.

Computation of Generation Energy

The following sections outline details of operational norms for computation of energy generation for FY 2013-14 based on Tariff Regulations, 2011 or past trend as the case may be.

Operation Norms

The following sections provide the extract of the Tariff Regulations, 2011 with respect to computation of generation energy.

a) ***Normative Annual Plant Availability Factor***

No.	*Station Particular*	*Norm*
1	*Storage and pondage type plants: where plant availability is not affected by silt and*	
a	*with head variation between Full Reservoir Level (FRL) and Minimum Draw Down Level (MDDL) of upto 8 %*	*90 %*
b	*with head variation between FRL and MDDL of*	*(Head at MDDL/Rated Head) x 0.5*

No.	Station Particular	Norm
	more than 8%	*+ 0.2*
2	*Pondage type plant*	*where plant availability is significantly affected by silt - 85%*
3	*Run –of- River type plants*	*NAPAF to be determined plant-wise, based on 10-day design energy data, moderated by past experience where available / relevant.*

Note:

(i) A further allowance may be made by the Commission under special circumstances, eg. Abnormal silt problem or other operating conditions, and known plant limitations.

(ii) A further allowance of 5 % may be allowed for difficulties in the North East Region.

(iii) In case of new hydro electric project the developer shall have the option of approaching the Commission in advance for further above norms.

b) Auxiliary Consumption

No	Station Particular	Norm
1	*Surface hydro electric power generating stations with rotating exciters mounted on the generator shaft*	*0.7% of energy generated*
2	*Surface hydro electric power generating stations with static excitation system*	*1.0% of energy generated*
3	*Underground hydro electric power generating stations with rotating exciters mounted on the generator shaft*	*0.9% of energy generated*
4	*Underground hydro electric power generating stations with static excitation system*	*1.2% of energy generated*

c) Transformation Losses

From generation voltage to transmission voltage ……0.5% of energy generated.

Design Energy

The design energy of Leshka is 486.23 MUs. The month wise and station wise design energy is provided in the Format HG3.

Projection of Energy

The computation of hydro power generation requires Design Energy, Capacity Index, Details of Reservoir levels, Head details, Past Availability details, features of the hydro power plants in terms of type of plant, type of excitation etc which are provided in the table below:

Features of Leshka

Sr. No.	Particulars	Leshka
1	**Type of Station**	
a	*Surface/ Underground*	SURFACE
b	*Purely ROR/ Pondage/ Storage*	ROR
c	*Peaking/Non Peaking*	NON PEAKING
d	*No. of hours Peaking*	NA
e	*Overload Capacity (MW) & Period*	NIL
2	**Type of Excitation**	
a	*Rotating exciters on Generator*	Nil
b	*Static excitation*	Static type

Computation of NAPAF for Run of River type plants: As per regulations, the NAPAF for Run of River type plants is to be determined based on 10-day design energy data, moderated by past experience wherever relevant. Leshka is a Run of River Project, therefore, based on the past records and as per norm given in regulation, the NAPAF works out to 44%. However considering further allowance of 5% for difficulties in north east region, the proposed NAPAF for Leshka is **39%**.

NAPAF of Leshka

Name of Power Station	Units	Leshka
Design Energy	MUs	486.23
Installed Capacity	MW	126.00
Generation @ 100%	MUs	1103.76
NAPAF (%) as per workings	%	44%
NAPAF (%) with 5% allowance	%	39%

Net Generation for FY 2012-13 and FY 2013-14 are provided in the table below:

Generation of Leshka

Year	Gross Generation (MU)	Aux Cons (%)	Transformation Loss (%)	Aux Cons & Transformation Loss (MU)	Net Generation (MU)
FY 2012-13	325.89	1.00%	0.50%	4.89	321.00
FY 2013-14	407.11	1.00%	0.50%	6.11	401.00

MePGCL submitted before the Commission to approve the total net generation as provided in table above for Leshka HEP.

Components of Tariff

The Regulation 52 provides for components of tariff which is extracted below for reference.

> ***52. Components of tariff***
>
> *(1) Tariff for supply of electricity from a hydro power generating station shall comprise of two parts, namely, annual capacity charges and energy charges to be in the manner provided hereinafter.*
>
> *(2) The fixed cost of a generating station eligible for recovery through annual capacity charges shall consist of:*
>
> *(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 by the Commission.*
>
> *(f) Taxes on Income*

Based on above provisions, MePGCL computes and provides herewith various cost elements for determination of tariff.

Gross Fixed Assets

The provisional gross fixed asset (GFA) of Leshka is mentioned below.

GFA of Leshka

Particulars	Leshka (Rs.Crs)
Opening GFA as on 1.4.2012	-
Add: Additions to GFA during FY 2012-13	1,173.13
Less: Retirements to GFA during FY 2012-13	
Closing GFA as on 31.3.2013	**1,173.13**
Opening GFA as on 1.4.2013	1,173.13
Add: Additions to GFA during FY 2013-14	
Less: Retirements to GFA during FY 2013-14	
Closing GFA as on 31.3.2014	**1,173.13**

MePGCL submitted before the Commission to approve the computed Gross Fixed Assets of Leshka HEP for FY 2013-14.

Determination of Return on Equity

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

51. Debt equity ratio

1) For the purpose of determination of tariff, debt-equity ratio in the case of a new generating station commencing commercial operations after the notification of these regulations shall be 70:30. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance shall be treated as normative loan. Where actual equity employed is less than 30%, the actual equity employed shall be considered.

2) In the case of existing generating stations the debt equity ratio as per the Balance Sheet on the date of the Transfer notification will be the debt equity ratio for the first year of operation, subject to such modification as may be found necessary upon audit of the accounts if such Balance Sheet is not audited.

The financing pattern of Leshka is shown in the table below.

Financial Pattern of Leshka HEP

Particulars	Rs Cr	%
Debt	853.11	72.7%
Equity	320.02	27.3%
Total	**1,173.13**	

The relevant regulations for computation of return on equity are extracted for reference as below:

53. Return on Equity

(1) Return on equity shall be computed on the equity base determined in accordance with regulation 51 and shall not exceed 14 %.

Provided that incase if 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 specified in CERC Tariff Regulations, 2009. (Refer Annuxure-1)

Provided that in case of 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 or 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.

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

(3) Internal resources created out of free reserves and utilized for meeting the capital expenditure shall also be treated as a part of equity.

(4) Foreign equity will also attract the same rate of return.

As discussed earlier in this section on determination of Debt-Equity ratio, MePGCL has considered the return on equity (RoE) of 14% on the same. The table below provides herewith the computation of RoE for FY 2013-14.

Return on Equity for FY 2013-14

Particulars	Unit	Leshka
Equity	Rs Crs	320.02
Return on Equity	%	14%
Return on Equity	**Rs Crs**	**44.80**

MePGCL Submitted before the Commission to approve the RoE of Rs. 44.80 Crs for FY 2013-14 for Leshka HEP.

Long Term Loans and Interest on Long Term Loans

The relevant regulations for computation of long term loans and interest thereon are extracted for reference as below:

54. Interest and finance charges on loan capital

(1) 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 prevailing therein.

Provided that the outstanding loan capital shall be adjusted to be consistent with the loan amount determined in accordance with Regulation 51.

(2) The interest and finance charges attributable to Capital Work in Progress shall be excluded.

(3) The generating company 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.

(4) 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 generating company in a ratio as may be specified by the Commission as envisaged in Regulation 13.2.

(5) In case any moratorium period is availed of by the generating company, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

According to the records and information, following are the details of loans for the power station for FY 2013-14.

Computation of Loan and Interest on Loans

Particulars	Unit	Leshka
Opening Loan Balance as on 1.4.2012	**Rs.Crs**	**746.83**
Add: Addition during year FY12-13	Rs.Crs	102.54
Less: Repayment during FY12-13	Rs.Crs	51.04
Closing Loan Balance as on 31.3.2013	**Rs.Crs**	**798.33**
Opening Loan Balance as on 1.4.2013	**Rs.Crs**	**798.33**
Add: Addition during year FY13-14	Rs.Crs	35.36
Less: Repayment during FY13-14	Rs.Crs	62.53
Closing Loan Balance as on 31.3.2014	**Rs.Crs**	**771.16**
Average Loan Balance for FY 2013-14	Rs.Crs	**784.74**
Interest Rate	%	11.75%
Interest on Loan	**Rs.Crs**	**92.23**

Depreciation

The relevant regulations for computation of deprecation are extracted for reference as below:

Regulation 57 - Depreciation

(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.

(f) Depreciation shall be calculated annually as per straight – line method at the rates specified in Appendix-III of CERC (Terms and Conditions of Tariff) of Regulations, 2009.

(g) The remaining depreciable value as on 31st March of the year closing after a period of 12 years from the date of commercial operation shall be spread over the balance useful life of the asset.

(i) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro-rata basis.

It is submitted that the depreciation for Leshka is computed considering estimated project cost and depreciation on balance useful life of asset. The table below provides depreciation for Leshka for FY 2013-14.

Depreciation of Leshka for FY 2013-14

Particulars	Amount Rs. Crs	Depreciation Rate	Depreciation on 90% of Cost FY 2013-14 (Rs Crs)
Land	22.08	0%	-
Buildings	34.85	3.34%	1.05
Hydraulic Works	714.26	5.28%	33.94
Other Civil Works	97.55	3.34%	2.93
Plant & Machinery	301.39	5.81%	15.75
Lines & Cables Network	0	5.28%	-
Vehicles	1.05	9.50%	0.09
Furniture	0.91	6.33%	0.05
Other Office Equipment	1.04	6.33%	0.06
Total	**1173.13**		**53.87**

MePGCL submitted before the Commission to kindly approve the total depreciation of Rs. 53.87 Crores for FY 2013-14 for Leshka HEP as summarized in above table.

Operation & Maintenance expenses (O & M expenses)

The relevant regulations for computation of O&M expenses are extracted for reference as below:

Regulation 55 - Operation & Maintenance expenses

(1) Operation and Maintenance Expenses (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.

(7) In case of hydro generating stations declared under commercial operation on or after 01/04/2009, O&M expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation and resettlement works) and shall be subject to annual escalation at 5.72% for the subsequent years.

Since Leshka HEP has achieved CoD after 1.04.2009, its O & M expenses has been fixed as per Regulation 55 (7) at 2% of fixed cost and further escalated at 5.72% to arrive at O & M expenses for FY 2013-14

O & M Expenses for FY 2013-14

Particulars	Rs.Crs
Project Cost	1,173.13
O&M Expenses for FY 2012-13 (2% of PC)	23.46
O&M Expenses for FY 2013-14 (5.72% escalation over prev. year)	24.80

MePGCL submitted before the Commission to kindly approve the O&M expenses of Rs. 24.80 Crores for FY 2013-14.

Interest on Working Capital

The relevant regulations for computation of working capital and interest on working capital thereon are extracted for reference as below:

Regulation 56

(1) Working Capital shall cover:

1) Operation and Maintenance expenses for one month;

2) Maintenance spares at the rate of 15% of operation and maintenance expenses specified in Regulation 55 above escalated at the rate of 6% per annum from the date of commercial operation and

3) Receivables equivalent to two months of fixed cost.

(2) Rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1st April of the financial year for which the generating station files petition for annual Revenue Requirement and tariff proposal. The interest on working capital shall be calculated on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

The computation of working capital and interest on working capital for FY 2013-14 as per above regulation is provided in the table below:

Interest on Working Capital for FY 2013-14

Particulars	Leshka
O & M Expenses for 1 month	2.07
Maintenance Spares @15% of O&M plus escalated by 6%	3.94
Receivables @ 2 months of Fixed Cost	37.14
Total Working Capital requirement	**43.15**
Computation of working capital interest	
SBI PLR as on 1.4.2012 (%)	14.75%
Interest on Working Capital	**6.37**

MePGCL submitted before the Commission to approve the Interest on working capital of Rs. 6.37 Crores for FY 2013-14.

Tax on Income

The Regulation 58 of Tariff Regulations 2011 provide for claim of Income Tax as expenses. However MePGCL submitted that since this being first independent filing for MePGCL and also due to fact that audited accounts of segregated are in process, income tax shall be claimed in subsequent filings in annual performance review/ true-up.

Connectivity and SLDC Charges

The Regulation 61 of Tariff Regulations 2011 provides for claim of SLDC & Connectivity charges as expenses. MePGCL submitted as per information received from SLDC the SLDC charge applicable to Leshka HEP is Rs 0.79 Cr. MePGCL submitted before the Hon'ble Commission to kindly approve the same as part of ARR.

Summary of Annual Fixed Cost – Leshka

The summary of the Annual Fixed Cost for the existing generating stations is provided in the table below:

Annual Fixed Cost FY 2013-14

Particulars	Amount Rs. Crs
Interest on Loan capital	92.23
Depreciation	53.87
O&M Expenses	24.80
Interest on working capital	6.37
Return on Equity	44.80
Income Tax	-
SLDC Charge	0.79
Total Annual Fixed Cost	**222.86**
Less: Non Tariff Income	-
Net Annual Fixed Cost	**222.86**

MePGCL submitted before the Commission to approve the Annual Fixed Cost of Rs. 222.86 Crores for FY 2013-14 for Leshka HEP.

Provisional Capital Cost and Tariff Determination – Lakroh

Regulation 47 – Tariff Filing

(2) (a) In case of a new generating station, a generating company shall file petition for determination of provisional tariff in advance of the anticipated date of commissioning of a generating station based on the capital expenditure actually incurred up to the date of making the petition or a date

prior to making of the petition, duly audited and certified by the statutory auditors and the provisional tariff shall be charged from the date of commercial operation of the generating station.

(b) A generating company shall file a fresh petition as per these regulations, for determination of final tariff of a generating station mentioned in clause (2) above based on actual capital expenditure incurred up to the date of commercial operation of the generating station duly certified by the statutory auditors based on annual audited accounts.

(3) Any difference between the provisional tariff and the final tariff determined by the Commission and not attributable to the generating company may be adjusted in the tariff for the following year as directed by the Commission.

Based on the above provisions, tariff petition is submitted determination of Provisional Tariff for Lakroh HEP.

Provisional capital Cost:

Regulation 49 – Capital Cost

(2) Scrutiny of cost estimates by the Commission shall be limited to the reasonableness of the capital cost, financial plan, and interest during construction period, use of efficient technology, and such other matters for determination of tariff.

(6) The project cost already admitted by the Commission for purpose of tariff determination shall be considered as the original project cost.

Based on the above provisions, provisional Project Cost is submitted to Commission for approval.

Details of Project Cost – Lakroh

Particulars	Amount Rs. Crs
Preliminary	0.10
Land & Site development	0.14
Civil Works	9.61
Vehicles	0.12
Electrical Works	5.38
Total Project Cost	**15.34**

Tariff determination

Regulation 49 – Tariff Determination

(2) New Generating Station

Where the generating station has been declared under commercial operation from a date after the issue of these regulations the tariff for supply of electricity by the Generating Company shall be decided in accordance with these regulations.

As the Lakroh will be commissioned after the issue of these regulations, MePGCL submitted this petition for determination of Tariff.

Computation of Generation Energy

The following sections outline details of operational norms for computation of energy generation for FY 2013-14 based on MSERC (Terms and Conditions for Determination of Tariff) Regulations, 2011 or past trend as the case may be.

Operation Norms

The following sections provide the extract of the Tariff Regulations with respect to computation of generation energy.

a) Normative Annual Plant Availability Factor

No.	***Station Particular***	***Norm***
1	*Storage and pondage type plants: where plant availability is not affected by silt and*	
a	*with head variation between Full Reservoir Level (FRL) and Minimum Draw Down Level (MDDL) of upto 8 %*	*90 %*
b	*with head variation between FRL and MDDL of more than 8%*	*(Head at MDDL/Rated Head) x 0.5 + 0.2*
2	*Pondage type plant*	*where plant availability is significantly affected by silt - 85%*
3	*Run –of- River type plants*	*NAPAF to be determined plant-wise, based on 10-day design energy data, moderated by past experience where available / relevant.*

Note:

(i) A further allowance may be made by the Commission under special circumstances, eg. Abnormal silt problem or other operating conditions, and known plant limitations.

(ii) A further allowance of 5 % may be allowed for difficulties in the North East Region.

(iii) In case of new hydro electric project the developer shall have the option of approaching the Commission in advance for further above norms.

b) Auxiliary Consumption

No	***Station Particular***	***Norm***
1	*Surface hydro electric power generating stations with rotating exciters mounted on the generator shaft*	*0.7% of energy generated*
2	*Surface hydro electric power generating stations with static excitation system*	*1.0% of energy generated*
3	*Underground hydro electric power generating stations with rotating exciters mounted on the generator shaft*	*0.9% of energy generated*
4	*Underground hydro electric power generating stations with static excitation system*	*1.2% of energy generated*

c) Transformation Losses

From generation voltage to transmission voltage ……0.5% of energy generated.

Design Energy

The design energy of Lakroh is 11.01 MUs. The monthwise and station wise design energy is provided in the Formats HG3.

Computation of Energy Generation

The computation of hydro power generation requires Design Energy, Capacity Index, Details of Reservoir levels, Head details, Past Availability details, features of the hydro power plants in terms of type of plant, type of excitation etc which are provided in the table below:

Features of Lakroh

Sr. No.	**Particulars**	**Lakroh**
1	**Type of Station**	
a	*Surface/ Underground*	SURFACE
b	*Purely ROR/ Pondage/ Storage*	ROR
c	*Peaking/Non Peaking*	NON PEAKING
d	*No. of hours Peaking*	NA
e	*Overload Capacity (MW) & Period*	NIL
2	**Type of Excitation**	
a	*Rotating exciters on Generator*	Nil
b	*Static excitation*	Static type

Computation of NAPAF for Run of River type plants: As per regulations, the NAPAF for Run of River type plants is to be determined based on 10-day design energy data, moderated by past experience wherever relevant. Lakroh is a Run of River Project, therefore, based on the past records and as per norm given in regulation, the NAPAF works out to **84%**. However considering further allowance of 5% for difficulties in north east region, the proposed NAPAF for Lakroh is **79%**.

NAPAF of Lakroh

Name of Power Station	Units	Lakroh
Design Energy	MUs	11.01
Installed Capacity	MW	1.50
Generation @ 100%	MUs	13.14
NAPAF (%) as per workings	%	84%
NAPAF (%) with 5% allowance	%	79%

Net Generation for FY 2012-13 and FY 2013-14 are provided in the table below:

Generation of Lakroh

Year	Gross Generation (MU)	Aux Cons (%)	Transformation Loss (%)	Aux Cons & Transformation Loss (MU)	Net Generation (MU)
FY 2013-14	6.09	1.00%	0.50%	0.09	6.00

MePGCL submitted before the Commission to approve the total net generation as provided in table above for Lakroh HEP.

Components of Tariff

The Regulation 52 provides for components of tariff which is extracted below for reference.

52. Components of tariff

(1) Tariff for supply of electricity from a hydro power generating station shall comprise of two parts, namely, annual capacity charges and energy charges to be in the manner provided hereinafter.

(2) The fixed cost of a generating station eligible for recovery through annual capacity charges shall consist of:

(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 by the Commission.

(f) Taxes on Income

Accordingly, MePGCL computes and provides herewith various cost elements for determination of tariff.

Gross Fixed Assets

The provisional Gross Fixed Assets (GFA) of Lakroh is as under:

GFA of Lakroh

Particulars	Lakroh (Rs.Crs)
Opening GFA as on 1.4.2012	-
Add: Additions to GFA during FY 2012-13	15.34
Less: Retirements to GFA during FY 2012-13	
Closing GFA as on 31.3.2013	**15.34**

MePGCL submitted to the Commission to approve the computed Gross Fixed Assets for FY 2013-14.

Determination of Return on Equity

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

51. Debt equity ratio

1) For the purpose of determination of tariff, debt-equity ratio in the case of a new generating station commencing commercial operations after the notification of these regulations shall be 70:30. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance shall be treated as normative loan. Where actual equity employed is less than 30%, the actual equity employed shall be considered.

2) In the case of existing generating stations the debt equity ratio as per the Balance Sheet on the date of the Transfer notification will be the debt equity ratio for the first year of operation, subject to such modification as may be found necessary upon audit of the accounts if such Balance Sheet is not audited.

Lakroh HEP has been funded by Grant and Equity and no loan has been taken for funding this project. The financing pattern of Lakroh is shown in the table below:

Financing Pattern of Leshka

Particulars	Rs Cr	%
Equity	3.59	23.4%
Grant	11.75	76.6%
Total	**15.34**	

1.1.1 - The relevant regulations for computation of return on equity are extracted for reference as below:

53. Return on Equity

(1) Return on equity shall be computed on the equity base determined in accordance with regulation 51 and shall not exceed 14 %.

Provided that incase if 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 specified in CERC Tariff Regulations, 2009. (Refer Annuxure-1)

Provided that in case of 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 or 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.

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

(3) Internal resources created out of free reserves and utilized for meeting the capital expenditure shall also be treated as a part of equity.

(4) Foreign equity will also attract the same rate of return.

It is submitted that MePGCL has considered the return on equity (RoE) of 14%. The table below provides herewith the computation of RoE for FY 2013-14.

Return on Equity for FY 2013-14

Particulars	Unit	Lakroh
Equity	Rs Crs	3.59
Return on Equity	%	14%
Return on Equity	**Rs Crs**	**0.50**

MePGCL submitted before the Commission to approve the RoE of Rs. 0.50 Crores for FY 2013-14 for Lakroh HEP.

Long Term Loans and Interest on Long Term Loans

The relevant regulations for computation of long term loans and interest thereon are extracted for reference as below:

54. Interest and finance charges on loan capital

(1) 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 prevailing therein.

Provided that the outstanding loan capital shall be adjusted to be consistent with the loan amount determined in accordance with Regulation 51.

(2) The interest and finance charges attributable to Capital Work in Progress shall be excluded.

(3) The generating company 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.

(4) 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 generating company in a ratio as may be specified by the Commission as envisaged in Regulation 13.2.

(5) In case any moratorium period is availed of by the generating company, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

Since Lakroh Project is funded by Grants and Equity, no interest on Loan is claimed.

Depreciation

The relevant regulations for computation of deprecation are extracted for reference as below:

Regulation 57 - Depreciation

(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.

(f) Depreciation shall be calculated annually as per straight – line method at the rates specified in Appendix-III of CERC (Terms and Conditions of Tariff) of Regulations, 2009.

(g) The remaining depreciable value as on 31st March of the year closing after a period of 12 years from the date of commercial operation shall be spread over the balance useful life of the asset.

(i) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro-rata basis.

It is submitted that the depreciation for Lakroh is computed considering estimated project cost and depreciation on balance useful life of asset. The table below provides depreciation for Lakroh for FY 2013-14.

Depreciation for FY 2013-14

Particulars	Unit	Unit	Rs. Crs
Project Cost of Lakroh	Rs.Crs	a	15.34
Less: Land & Site Development	Rs.Crs	b	0.14
Net Project Cost for Depreciation	Rs.Crs	c= a-b	15.20
Depreciable Asset Value @ 90%	Rs.Crs	d= c*90%	13.68
Depreciation Rate as per Appendix-III	%	e	5.28%
Depreciation value for FY 2013-14	Rs.Crs	f= e*d	**0.72**

MePGCL submitted before the Commission to kindly approve the total depreciation of Rs. 0.72 Crores for FY 2013-14 for Lakroh HEP as summarized in above table.

Operation & Maintenance expenses (O & M expenses)

The relevant regulations for computation of O&M expenses are extracted for reference as below:

Regulation 55 - Operation & Maintenance expenses

(1) Operation and Maintenance Expenses (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.

(7) In case of hydro generating stations declared under commercial operation on or after 01/04/2009, O&M expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation and resettlement works) and shall be subject to annual escalation at 5.72% for the subsequent years.

Since Lakroh HEP will achieve CoD after 1.04.2009, its O & M expenses has been fixed as per Regulation 55 (7) at 2% of fixed cost and further escalated at 5.72% to arrive at O & M expenses for FY 2013-14

O & M Expenses for FY 2013-14

Particulars	Rs.Crs
Project Cost	15.34
O&M Expenses for FY 2012-13 (2% of PC)	0.31
O&M Expenses for FY 2013-14 (5.72% escalation over prev. year)	0.32

MePGCL submitted before the Commission to approve the O&M expenses of Rs. 0.32 Crores for FY 2013-14.

Interest on Working Capital

The relevant regulations for computation of working capital and interest on working capital thereon are extracted for reference as below:

Regulation 56

(1) Working Capital shall cover:

1) Operation and Maintenance expenses for one month;

2) Maintenance spares at the rate of 15% of operation and maintenance expenses

specified in Regulation 55 above escalated at the rate of 6% per annum from the date of commercial operation and

3) Receivables equivalent to two months of fixed cost.

(2) Rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1st April of the financial year for which the generating station files petition for annual Revenue Requirement and tariff proposal. The interest on working capital shall be calculated on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

The computation of working capital and interest on working capital for FY 2013-14 as per above regulation is provided in the table below:

Interest on Working Capital for FY 2013-14

Particulars	Lakroh
O & M Expenses for 1 month	0.03
Maintenance Spares @15% of O&M plus escalated by 6%	0.052
Receivables @ 2 months of Fixed Cost	0.27
Total Working Capital requirement	**0.35**
Computation of working capital interest	
SBI PLR as on 1.4.2012 (%)	14.75%
Interest on Working Capital	**0.05**

MePGCL submitted before the Commission to approve Interest on working capital of Rs. 0.05 Crores for FY 2013-14.

Tax on Income

The Regulation 58 of Tariff Regulations 2011 provide for claim of Income Tax as expenses. However MePGCL submitted that since this being first independent filing for generation function and also due to fact that audited accounts of segregated are in process, income tax shall be claimed in subsequent filings in annual performance review/ true-up.

Connectivity and SLDC Charges

The Regulation 61 of Tariff Regulations 2011 provides for claim of SLDC & Connectivity charges as expenses. MePGCL submitted as per information received from SLDC the SLDC charge applicable to Lakroh HEP is Rs 0.01 Crores. MePGCL submitted before the Commission to kindly approve the same as part of ARR.

Summary of Annual Fixed Cost – Lakroh

The summary of the Annual Fixed Cost for the existing generating stations is provided in the table below:

Annual Fixed Cost FY 2013-14 for Lakroh

Particulars	Amount Rs. Crs
Interest on Loan capital	-
Depreciation	0.72
O&M Expenses	0.32
Interest on working capital	0.05
Return on Equity	0.50
Income Tax	
SLDC Charge	0.01
Total Annual Fixed Cost	**1.61**
Less: Non Tariff Income	-
Net Annual Fixed Cost	**1.61**

The Commission is requested to approve the annual fixed cost of Rs. 1.61 Crores for Lakroh HEP for FY 2013-14.

Summary of ARR of MePGCL

Based on the detailed computation of ARR for existing projects, Leshka HEP and Lakroh HEP project wise summary of ARR is as under:

Annual Fixed Cost FY 2013-14 Summary

Particulars	Old Assets	Sonapani	Leshka	Lakroh	Total
Interest on Loan capital	-	-	92.23	-	92.23
Depreciation	14.11	0.50	53.87	0.72	69.21
O&M Expenses	43.93	0.27	24.80	0.32	69.33
Interest on working capital	3.42	0.04	6.37	0.05	9.88
Return on Equity	12.77	0.46	44.80	0.50	58.53
Income Tax	-	-	-	-	-
SLDC Charge	1.19	0.01	0.79	0.01	2.00
Total Annual Fixed Cost	**75.41**	**1.28**	**222.86**	**1.61**	**301.16**
Less: Non Tariff Income	**0.05**	**-**	-	-	0.05
Net Annual Fixed Cost	**75.36**	**1.28**	**222.86**	**1.61**	**301.11**

The Commission received only one objection on the ARR and Tariff proposal of MePGCL for 2013-14. Further the Commission in its Advisory Committee meeting held on 08.02.2013 & 20.02.2013 received some suggestions/objections from members of the Advisory Committee and invitees in the meeting. The Commission held a public hearing on 25.03.2013 where public were invited to give suggestions on the ARR of all the utilities. In the public hearing, salient features of Leshka Hydro Project were given to the participants. The Commission considered all responses received so far on the ARR and tried to make a balance between the interest of utility and consumers. In this chapter the Commission explains the details of the objections made by consumers and responses given by utility.

Byrnihat Industry Association:

(i) - Byrnihat Industry Association filed their submission to the Commission on the tariff proposal of MePGCL. They made a request to the Commission to take on record their objections and have requested for an opportunity to be heard in the public hearing. The Commission considered their request and invited them as a special invitee in the Advisory Committee meeting held on 20.02.2013. The Commission gave them full opportunity to speak on each and every issues relating to their interest. The Commission handed over their objections to the MePGCL to file their reply on each of their objection within a week's time. Further, in the public hearing, the Commission invited BIA to attend this hearing and share their views. The objection of BIA is given below.

(ii) VIOLATION OF ELECTRICITY ACT 2003:

BIA claimed that application filed by MePGCL is not in accordance with the provisions of Electricity Act 2003 and rules and regulations framed there under. It is raised that inefficiency in the operation cannot be permissible and only such cost and expenses should be allowed to be passed on to the Consumers which are genuine and prudent. They submitted that in a matter of NTPC versus CERC, Appellate Tribunal of Electricity has held that interest of consumers should be safeguarded and tariff should be so determined that it should be the cheapest at the consumer end.

(iii) NORMATIVE ANNUAL PLANT AVAILABILITY FACTOR (NAPAF):

BIA submitted that 5% reduction in the applicable NAPAF for all its generating stations keeping in view the difficulties in North East Region are not genuine. BIA submitted that NAPAF should be determined as per the regulations and availability of the plant. Since MePGCL has not submitted details of the difficulties they are facing, this should not be allowed to them. They claimed that MePGCL is only covering up their inefficiency in the operation of the generating station. BIA requested the Commission not to relax 5% in the NAPAF. Further the calculation of NAPAF for Umiam generating station is not correct. Similarly BIA submitted their view point that NAPF should be taken at 90% as provided in regulation 60 of MSERC Tariff Regulation. The details of the calculation have not been provided by MePGCL. BIA made a suggestion that before allowing NAPAF the Commission should get it verified by a Third Party Certification.

(iv) INEFFICIENCIES IN THE OPERATION:

BIA objected to the practice of MePGCL in operation of the generating stations and suggested that the generation level can be increased by adopting prudent utility practices by MePGCL. Finally they have suggested to the Commission that they should not allow any inefficiency in the generation level by allowing them lower NAPAF.

(v) GROSS FIXED ASSETS:

BIA objected that details of the capital cost should be filed by MePGCL separately for each of their generating station. They raised an objection to MePGCL petition that they have only filed a consolidated capital cost for existing generating station. They have suggested MePGCL to justify the cost of Rs.10 crores for Micro Hydel Sonapani Project of 1.5 MW. They suggested that the Commission should consider this aspect while determining their tariff. Similarly they objected that equity cannot be simply taken as 30% and it should be the maximum cap for any investment for the purpose of the tariff.

(vi) DEPRECIATION:

BIA made an objection that MePGCL has not given any asset wise breakup on their existing plant and the depreciation charged by them is only towards renovation and modernisation activities. They suggested that depreciation rate should be allowed since the commercial operation of the generating station and their salvage values. Depreciation should be allowed as per the Commission’s Regulation.

(vii) OPERATION AND MAINTENANCE EXPENSES:

BIA objected that O & M expenses claimed by MePGCL is based on actual expenses booked in their audited accounts from 2003-2008. They objected that the expenses which are not made on prudent practice should not be allowed. Inefficiencies in the operation should not be allowed to the consumers and some prudence check should be allowed in such expenses. Consequently, working capital also needs to be revised taking into account the allowable operation and maintenance expenses.

(viii) PROVISIONAL TARIFF CLAIMED FOR LESHKA PROJECT:

MePGCL did not provide any financial details of the project and there is a huge cost overrun and inefficiency in the operation by MePGCL. The Commission should not allow such an inefficiency to be passed through in the tariff for consumer. They suggested that MePGCL should establish that the project is capable of being operated and to generate electricity in an efficient manner and at reasonable costs. They have raised several objections to the construction delay in the project and cost estimates have increased many times. They strongly objected to the total cost of Rs.1173 crores which is closed to Rs.10 crores per megawatt with NAPAF is as low as 39%. They objected to their claim in RoE of Rs.44.80 crores. They raised lots of objections to the interest cost of the project and the total ARR of 222.86 crores for Leshka Hydro Project when there is no certainty of operational efficiency of the project. Finally they made a request to the Commission that to allow tariff for Leshka Project only after MePGCL is in position to declare commercial operation of the project, successfully run the project and show their capabilities.

Finally they suggested looking into any discrepancies in the ARR and allowing the prudent expenditures only in the tariff for 2013-14.

RESPONSE FROM MEPGCL

GENERAL

MePGCL has noted the BIA objection given at Para No. 1 & 2

Violation of Electricity Act

MePGCL denied to this objection. They submitted that MePGCL has followed the Electricity Act, 2003 and provisions of Meghalaya State Electricity Regulatory Commission (Terms and Conditions for determination of Tariff) Regulations, 2011 while preparing the petition. The objection is denied. It is submitted that MePGCL has proposed all costs and expenditures in accordance with the Meghalaya State Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations 2011.

NORMATIVE ANNUAL PLANT AVAILABILITY FACTOR (NAPAF):

MePGCL denied the objection raised by BIA on determining of NAPAF. They submitted that MePGCL has followed Regulation 60 (1) of Meghalaya State Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2011 while proposing to apply 5% reduction in NAPAF. They have reproduced the Regulations of MSERC (Terms and Conditions for Determination of Tariff) Regulations 2011 on determining methodology of NAPAF. They stated that North East Region faces various problems relating to operation of hydro power station. Some of the problems they have given as following:

- Difficulty in getting spare parts when plant and machinery breaks down.
- Shortage of trained and skilled manpower.
- Poor communication network.
- Heavy rainfall accompanied with lighting and disruption of tower and road communication.

MePGCL submitted that detailed calculation of NAPAF is clearly shown in clause 3.4.3.2 and 3.4.3.5 of the petition for ARR and generation tariff dated 14.12.201. The maximum and minimum head of hydro power station is governed by full reservoir level and minimum draw down level which were finalised during the design of the station. A list of the salient features showing the FRL and MDDL of Umtru, Stage I, II, III, IV, power stations are shown in the HG2 formats of the petition.

MePGCL denied the objection and submitted that as per regulation 60 (1) (ii) for generating station with head variation of more than 8% the NAPAF will be calculated by using the following formula:

NAPAF = (Head at MDDL / Rated Head) x 0.5 +0.2

Similarly they have followed the Commission regulation in preparing the NAPAF for Umiam stage I and II. MePGCL rejected the objection and submitted that they have followed the Commission's regulation for proposing the NAPAF for Umiam generating station and detailed calculations are given in the ARR petition.

MePGCL submitted in their reply three photographs of Umtru reservoir showing very high silk level which have significantly operated the operation Umtru power station.

INEFFICIENCY IN THE OPERATION

MePGCL rejected the objection and submitted that they operate only hydro power plants which depend upon availability of water which varies from year to year. The generation is high when water availability is high and vice versa. The generation of about 530 MU for existing plants is - projected in 2013-14 which is more or less equal to average annual generation during last ten years.

GROSS FIXED ASSETS

They submitted that the Government of Meghalaya vide its Notification dated 31.03.2012 transferred the assets and liabilities of MeECL to these three companies namely, MePGCL, MePTCL & MePDCL. Since their operation is to be started w.e.f. 01.04.2012 separate accounts for these companies are yet to be maintained. The segregated details of assets and liabilities of each generating station are also yet to be maintained. Umiam Stage I to IV and Umtru are very old power station and their capital costs are not available. In view of these facts MePGCL submitted to the Commission to accept a single tariff for these stations. However, for new generating stations like Sonapani, Lakroh & Leshka separate tariff proposal have been filed. MePGCL submitted that cost of 1.5 MW Sonapani is Rs.10.86 crores and generation is 6 MUs annually. The costs per unit from Sonapani will be around Rs.2.13 per unit.

RETURN ON EQUITY

MePGCL raised strong objections to the comments on return on equity and said that equity of MePGCL is Rs.248 crores as on 01.04.2008 as per Government Notification dated 31.03.2012. However, as per tariff regulation MePGCL can claim RoE on 30% total GFA at 14% return. Therefore, they have only claimed 91.19 crores as RoE.

DEPRECIATION

It is submitted that details of depreciation is given in the format 6 of the petition dated 14.12.2012.

OPERATION AND MAINTENANCE EXPENSES

MePGCL denied the objection and submitted that O & M expenses are based on methodology given in the Regulation 55 of Tariff Regulation and detailed calculation is given in the petition. It is submitted that increase in O & M expenses during 2005-06 to 2006-07 is mainly due to revision in pay which came into effect in January 2005.

It is submitted that Leshka project is ongoing project with an installed capacity of 126 MW (3 x 42 Mw). The approved estimated cost of the project is Rs.1173.13 crore which comes to Rs.9.33 crore per megawatt. At present first two units of this project are under commercial operation and third unit shall be expected to be commissioned in March 2013. MePDCL submitted that project cost of Rs.9.33 crore per megawatt is lower than some of the ongoing hydro project in North East Region, J & K and West Bengal. Other projects were the cost per megawatt is shown lower than Leshka Project are yet to be completed and their completion cost shall be much higher on completion.

Sl. No.	Project *	Cost/MW (Rs. Cr.)
1	Turial 60 MW (Mizoram) - NEEPCO	15.23
2	Chutak 44 MW (J & K) – NHPC	20.75
3	Teesta 3- 132 MW (W B) – NHPC	12.33
4.	Nimoo Bazgo (J & K) - NHPC	12.33

*The above table reflects only those project which have cost per megawatt more than 10 crores. However, it has other projects where the cost is around 5 – 8 crores per megawatt.

The Leshka Project does not have peaking capability of 126 MW for 3 hours or more during lean period and is a runoff river scheme. The NAPAF is calculated based on ten daily design energy data as provided under Regulation 60 (1) (c).

TARIFF CLAIMED FOR LESHKA PROJECT

The unit cost of energy at about Rs.5.50 per unit for Leshka is because it is a new project and also due to the lower generation target fixed at 401 MU during FY 2013-14, though the design energy is 486 MU. This is because the third unit which is expected to be commissioned in March 2013 will still be under the defect liability period of one year as per tender agreement and may not be available throughout since any defect during its operation have to be corrected free of cost by supplier. A comparison with the energy rate of some hydro projects that the tariff of the Leshka is less than those of TEHRI hydro project (Rs.6.08 per unit) Dulhasti hydro project (Rs.5.95 per unit).
MePGCL claimed that from 2014-15 onwards when the generation target will be high the tariff shall come down. However, the average cost of MePGCL generation is above Rs.3.24 per unit during 2013-14.

Advisory Committee Meetings

During the Advisory Committee meeting, Shri Ramesh Bawri brought about many pertinent issues relating to the petition and appreciated that separate petitions have been filed by all utilities as required under the Electricity Act, 2003 (‘the Act’). This would have led to a much better understanding of the workings of MeECL. Mr. Bawri requested the Commission to review the status of directions given to MeECL last year while finalizing the Tariff Order so that the road map given by the Commission is properly implemented in the interest of the Public. Mr. Bawri has shown his concern about the high capital cost of the project incurred in MLHEP (Myntdu-Leshka). He pointed out that the Commission should review the matter and allow only the reasonable cost of the project inconsonance with national standards. He also pointed out that there should be some mechanism - which forces the management of power stations to optimize the best utilization of their project and give maximum generation to the State. He agreed to the Commission's proposal that tariff should be related with the generation so that there is an incentive for the generator to generate more than the designed energy. He also submitted that the machine should be kept in order in monsoon period so that the generation is maximum during water availability. Mr. Bawri pointed out that designed energy projected by MePGCL is far below the actual generation made by such stations in last five years. Therefore, he requested the Commission to review the designed energy and make it as par with the actual generation of each generating station. He has shown his inability to comment on ROE as accounts of previous year are not audited and he has requested the Commission to verify the amount of ROE as claimed by MePGCL.

Shri Goswami from IEX suggested that MePGCL should go for better utilization of their machines throughout the year by proper man management and preventive maintenance of their machines.

Shri. S. S. Agarwal of BIA raised concern over the high capital cost of Leshka Hydro Project and suggested that it is better to take power from the open market if such high cost has to be incurred. He suggested that return on investment should not be made a pass through in the tariff otherwise generation cost will be very high.

Public Hearing

The Commission held a Public Hearing on 25th March 2013 on the ARR of MePGCL, MePTCL & MePDCL. During the hearing, the counsel of Byrnihat Industries Association strongly objected on the proposed tariff of Myntdu Leshka Project (3x42 MW). She insisted that tariff proposal should be based on actual records of expenses. She objected to the tariff proposal filed by MePGCL for Leshka Project without the audited data. She insisted on that no final tariff should be given to Leshka Project on the basis of records without any statutory audit and without inviting objections. She submitted that in accordance with the Commission's Regulation, MePGCL should have filed an application for provisional tariff when the unit was commercially started. She submitted that final tariff for Leshka Project should be determined at the time of filing of tariff petition with audited records and when all units are commercially operated.

Similarly, she raised objection on the projections made by MePGCL with regard to NAPAF for all -the machines including Leshka in their petition. She submitted that without any study on availability, the Commission should not agree to their proposal.

In addition to oral submission, BIA submitted written submission to the tariff petition of MePGCL pursuant to rejoinder filed by MePGCL in the response to BIA objections. BIA submitted that in terms of Regulation 25 (2) the obligation is on the MePGCL to file in anticipation of commercial operation date of a new generating station a petition of approval of provisional tariff of a generating station. In the petition they have not given the financial details of the said project. BIA insisted that there should be a filing for provisional tariff before the units are commercially operated in accordance with regulations. BIA requested the Commission to direct MePGCL to file the final tariff petition that can be decided in a time bound manner. They objected to the COD of the units which can only be declared as provided under CERC (Terms and Conditions of Tariff) Regulations 2009. According to BIA there are serious issues with regard to construction, design and operational capability of the said project. BIA submitted that capital cost of the project has been raised several time and it is not even known that the project can be operated in a viable manner. The cost of Rs.10 crores per megawatt with a generation efficiency of 39% is very high. Including return on equity the cost per unit shall be more than Rs.5.50 paisa. BIA submitted that there is no justification for such high cost of power to be passed on to the consumers in the State of Meghalaya. Even if MePGCL procures electricity from thermal generating station the cost of electricity shall be much less. Accordingly, the Commission should direct MePGCL to file a separation for determination of final tariff for Leshka project with full audited accounts after declaring commercial operation. Till such time the question of providing any tariff for the said project should not arise.

COMMISSION'S VIEW

The Commission noted the all objections raised by consumers and members of the Advisory Committee at different point of times. The Commission also considered the response on the objections given by the generating company MePGCL. Since this is the first year of operation of a generating company as a separate body, the Commission is not in the position to pass any final order in the regard of tariff of new projects without availability of audited accounts and report on technical parameters. The Commission is considering to allow interim tariff for Leshka and Lakroh projects till such time a final tariff is determined subject to availability of audited accounts. Similarly for existing plants without the capital cost known to the Commission, some assumptions have been considered for deciding the tariff of old power stations. At this stage the Commission is not taking any final view on the capital cost of Leshka and Lakroh until their final report is received from CEA or - appropriate body. Similarly without any detailed technical examination of project details and designed parameter it would be difficult to decide NAPAF for each plant and approve the proposal of the licensee. Accordingly, the Commission dealt with each and every issue at appropriate places in the tariff order.

COMMISSION'S APPROACH

General

It has been the approach of the Commission to give the principles and practices adopted by the Commission while determining the Annual Revenue Requirement as well as Tariffs for licensee/utility of the State. In the previous Tariff Order, the Commission elaborated on the principles and provisions of the Regulations for determining retail tariff. This year, the Commission received separate filings for determining of Tariff for Generation, Transmission and Distribution. Like previous year, the Commission has tried to adhere to the Regulations, National Tariff Policy and provisions of Electricity Act, 2003 to determine the Tariff of different companies working in the power sector. In the absence of audited account, the Commission has tried to validate expenditures of generating stations on the basis of actual accounting records for the period April 2012 – September 2012 and provisional records for previous years. However, next year at the time of tariff filing for 2014-15, the Commission shall validate all expenditures and revenues in accordance with the audited accounts of MePGCL.

The Commission followed the tariff regulations for the purpose of determining of all generating stations on the basis of records available to it and prudence check subject to reasonability of the cost and financial viability of the generating company. In the absence of audited accounts or capital cost of new projects namely Leshka and Lakroh the Commission do not find any reason to accept the financial data with respect to capital cost and related expenditures submitted by the generating company. The regulation also prescribes that without commercial operation of the station, demonstration of capacity of the machine and capital cost including expenses duly audited and certified by the statutory auditors, only the provisional tariff is to be allowed for such stations. The Leshka hydro electric project has a major financial implication on the consumer tariff and therefore the Commission has adopted approach where balance between the interest of the generating company and consumer's interest is maintained. In accordance with regulation Commission shall determine the final tariff for Leshka only after vetting of capital cost of the project either by an independent agency like CEA or experts in this field. After getting the final report on Leshka project, the Commission shall scrutinise the cost in accordance with the regulation subject to prudence check, public consultation and then determine the tariff keeping the interest of the state, its consumers and the generating company.

Statutory requirements:

Section 64 of the Electricity Act, 2003 requires the generating companies and the licensees to file an application for determination of tariff under section 62 of the Act in such manner as specified through the regulations by the Regulatory Commission. Section 61 of the Act further requires the Commission to specify the terms and conditions for determination of tariff in accordance with the provision of the act. The act also provides that the Commission shall be guided by the principles and methodologies specified by Central Electricity Regulatory Commission, the National Tariff and Electricity Policies.

In the light of the above provisions of the act, the Commission has already notified MSERC (Terms and Conditions for determination of tariff) Regulations 2011. The regulations are applied in the State of Meghalaya till such time it is revised by the Commission. For the purpose of this Tariff Order, the Commission shall therefore, be guided by the said regulations subject to the relaxation wherever necessary for various valid reasons recorded therein.

By and large, in line with the provisions of tariff regulations, the Commission are following at present the cost plus approach subject to prudence check and efficient norms.

Filing of Petition:

Regulation 47 specifies the process of filing a petition for determining the tariff of existing running power plants and provisional tariff for new power plants where commissioning is still not completed.

Power Purchase Agreement:

Regulation 48 prescribes that if there is any power purchase agreement approved by the Commission prior to notification of the tariff regulation that will prevail. This regulation also provides that all generating stations declared under commercial operation after the issue of this regulation shall be decided in accordance with this regulation. In the present case, MeECL has no approved tariff for generating stations; therefore, the Commission shall use the present regulation to determine the AFC for all generating stations MePGCL.

Capital Cost:

Regulation 49 provides the approval of actual capital cost subject to prudence check by the Commission for new investments. The Commission shall scrutinise the reasonableness of the capital cost, financial plants and interest during construction period, use of efficient technology and such other matters for determination of tariff. The regulation also prescribes that in case of any abnormal delay in execution of the project causing cost and time over run attributable due to the failure of the utility, the Commission may not approve the full capitalisation of interest and over head expenses. The regulation also prescribes that where power purchase agreement entered into between generating company and the distribution licensee provides for a ceiling of actual expenditure. The regulation has also prescribed that the Commission may issue guidelines for verifying the capital cost of hydro electric projects by an independent agency or expert and in such a case the capital cost as vetted by such agency may be considered by the Commission while determining the tariff of such hydro generating stations. For the purpose of this order the Commission has considered the GFA value as given in the transfer scheme notified by the Government of Meghalaya and did not consider capital cost of new projects where COD has not been declared as per CERC guidelines.

Additional Capitalisation

Regulation 50 provides that some of the capital expenditure (on account of un discharge liabilities, on account of change in law, etc) actually incurred after the date of commercial operation and up to the cut off date may be admitted by the Commission subject to the prudence check.

Renovation and Modernisation

Regulation 50 (a) provides that the generating company for the purpose of extension of life beyond the useful life of a generating station or a unit thereof may make expenditure on renovation and modernisation. However, it shall make an application before the Commission for approval of the proposal with a detail project report giving complete scope, justification, cost benefit analysis, estimated life extension, funding, phasing of expenditure, schedule of completion, reference price level, estimated completion cost.

Debt Equity Ratio

Regulation 51 provides that for the purpose of determination of tariff of new generating stations commencing commercial operation after the notification of this regulation, the debt equity ratio shall be 70:30. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance shall be treated as normative loan. Where actual equity employer is less than 30%, the actual equity employer shall be considered. It is important to note that issue of share capital shall only be treated as amount of equity invested for the purpose of determination of tariff.

In the case of existing generating station the debt equity ratio as per the balance sheet on - the date of the transfer notification will be the debt equity ratio for the first year of operation subject to such modification as may be found necessary upon audit of the accounts if such balance sheet is not audited. The debt equity amount arrive shall be used for calculating interest on loan, return on equity, etc.

Components of Tariff

Regulation 52 provides that there will be tariff for supply of electricity from a hydro power generating station shall comprise of two parts, namely, annual capacity charges and energy charges.

The fixed cost of a generating station shall be recovered through annual capacity charges and shall consist of:

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 by the Commission
f) Income Tax.

The annual capacity charges shall be worked out by deducting any other income of the generating company from the total expenses.

Return on Equity

Return on equity shall be computed in accordance with regulation 53 on the equity base as determined in accordance with regulation 51 and shall not exceed 14%. The regulation also prescribes that there should be addition return up to 2% shall be allowed if projects are completed within original sanction project cost without any time or cost overrun. However, in the absence of audited and separate accounts for each utility the Commission has decided to allow same return on equity as allowed in the previous year equally to generation, transmission and distribution utilities. The Commission shall take a view on return on equity which shall not exceed 14% for projects under MePGCL after the accounts are audited with CAG report on it.

Interest and finance charges on loan capital

Regulation 54 provides that 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 agreement, bond or debentures and the lending rates prevailing therein. However, the loan capital should meet the requirement of regulation 51 providing debt equity ratio.

The regulation also prescribes that interest and finance charges attributable to capital work in progress (COD not achieved) shall not be allowed. There is a provision in the regulation that generating company shall make every effort to swap loans as long as it results in net benefit to it. In case of any moratorium period is availed by the generating, the depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly. The Commission has taken a view that the interest on loan is only due on the new projects where the accounts are yet to be audited. Accordingly, the Commission is fixing the interim tariff for meeting financial commitment against these projects as per normative.

Operation and maintenance expenses

The operation and maintenance expenses shall comprise of the following:

a) Employees cost
b) Repair and maintenance
c) Administration and general expenses

Operation and maintenance expenditures for the existing generating plants which have been in operation for five years or more in the base year 2007-08 shall be derived on the basis of actual operation and maintenance expenses for the year 2003-04 to 2007-08, based on the audited accounts excluding any abnormal O&M expenditures after prudence check by the Commission. The normalised operation and maintenance expenses after prudence check for the years 2003-04 to 2007-08 shall be escalated at the rate of 5.17% to arrive at the normalised O&M expenses at the 2007-08 price level. The average normal O&M expenses at 2007-08 price level shall be escalated at 5.72% to arrive at the O&M expenses for the year 2009-10. Further it shall be escalated from 2009-10 after taking care of increasing employees cost @5.72% per annum for determining cost for subsequent year.

The regulation prescribes that in case of hydro generating stations which have not been in commercial operation for a period of 5 years as on 01.04.2009, O&M expenses shall be fixed at 2% of the original project cost. Further, in such cases, it shall be escalated @5.72%.

In order to introduce efficient operation in the generation the Commission is allowing a - ceiling on the O & M expenses so that at the time of truing up it may not allow any unreasonable expenses over and above the O & M ceiling.

Interest on working capital

Regulation 56 prescribes that working capital shall cover the following:

a) Operation and maintenance expenses for one month
b) Maintenance sphere at 15% of O&M
c) Two months receivables of AFC

Rate of interest on the working capital shall be short term prime lending rate of SBI @14.5%. On the basis of the previous year record the Commission has allowed interest amount including loan capital and working capital on existing projects.

Depreciation

Regulation 57 provides that depreciation shall be computed on the assets/capital costs of the assets as entered by the Commission where the opening asset value recorded in the balance sheet as per the transfer scheme notification shall be deemed to have been approved. However, after the audit of the accounts necessary modification may be made. For the new assets the approved cost for the asset value shall be taken into account. The depreciation shall be calculated annually as per straight line method at the rates as specified in CERC regulations. In case of the existing projects the balance depreciable value as on 01.04.2010 shall be worked out by deducting the cumulative depreciation as admitted by the Commission from the gross value of the assets. Depreciation shall only be chargeable from the first year of operation.

Income Tax

Income tax shall be treated as expenses and shall be recoverable from the consumers through tariff. The income tax actually paid shall be included in the ARR. Any under recovery or over recovery shall be adjusted every year on the basis of income tax certificate issued by the authorities.

Computation of capacity charges and energy charges

Regulation 59 provides the methodology to calculate the capacity charges and energy charges to be payable by the beneficiary in the following manner:

a) - Capacity charges: The fixed cost of a hydro generating station shall be computed on annual basis based on the norms specified under the regulations and shall be recovered on monthly basis under capacity charges and energy charges. The capacity charges shall be allocated in proportion to their respective allocation of saleable capacity of the plant. The capacity charges shall be payable in accordance with the following formula:

Capacity charge in a month = AFC x 0.5 x (NDM/NDY) x (PAFM/NAPAF)

Where: -

AFC = Annual Fixed Cost -

NAPAF = Normative Plant Availability Factor in Percentage, -

NDM = Number of Days in a Month, -

NDY = Number of Days in the Year -

PAFM = Plant Availability Factor achieved During the Month in Percentage -

b) - PAFM shall be computed in accordance with the following formula:

$$\mathbf{PAFM = 10000 \times \sum_{I=1}^{N} DCI/(N x IC x(100-AUX)) \text{ in percentage}}$$

Where: -

AUX = Normative Auxiliary Consumption in percentage -

DCI = Declared Capacity at ex base for the ith day of the month which station can deliver for - at least 3 hours. -

IC = Installed capacity in megawatt of the complete generating station. -

N = Number of Days in a Month. -

Energy charges

a) - The Energy charges shall be payable for the total energy scheduled to be supplied to the beneficiary at the energy charges rate. The energy charges payable shall be calculated in the following manner:

Total energy charges = energy rate in Rs. Per unit x scheduled energy ex bus x (100-free energy if any)/100

b) Energy charges rate shall be determined as per the following formula -

ECR = AFC x 0.5 x 10/ (DE x (100-AUX) x (100-FEHS) -

Where: -

DE = Annual Designed Energy -

FEHS = Free Energy for Home State -

ECR = Energy Charges Rate in Rs. Per unit -

AFC = Annual Fixed charges -

AUX = Auxiliary Consumption -

c) - In case actual energy generated during a year is less than designed energy for reasons beyond control of the company the adjustments shall be made in accordance with the regulation.

d) - The SLDC shall finalise the schedule for generating station in consultation with the distribution licensee for optimal utilisation of all the energy declared to be available.

Since this is the first tariff order on generation, the Commission has allowed 2-part-tariff based on the same principles as given in the regulation. However, the Commission has not allowed proposal of norms of operation without a proper study. Accordingly, 50% of annual fixed charges are paid on monthly basis subject to availability of the machine verified by SLDC and remaining 50% of AFC shall be paid on generation basis. This will protect the interest of generating company as well as motivate them to maximise their generation.

Norms of operation

The norms of operation shall be as under:

a) - Normative annual plant availability factor (NAPAF)

i) Storage and pondage types plant where plant availability is not affected by silt – 90%.

ii) Pondage type plant where plant availability is significantly affected by silt – 85%.

iii) Run of the river type plant – NAPF to be determined based on 10 days designed data based on the past experienced.

iv) It is also provided in the regulation that the Commission may allow further 5% keeping in view the difficulties in North East Region.

b) - Auxiliary Energy Consumption: -

(i) Surface hydro stations with rotating exciters- 0.7%

(ii) Surface type with static excitation-1%

c) - Transformation losses: From generation voltage to transmission voltage 0.5% shall be accounted against transformation losses from the energy generated.

d) - Connectivity and SLDC charges: Regulation 61 provides that these charges as determined by the Commission shall be considered as expenses.

e) - Other Income: All income other than income from sale of energy shall be considered while determining the AFC.

The Commission has not taken any view on the computation of normative annual plant availability factor (NAPAF) of all generating stations without knowing the technical details of each plant duly verified. For the purpose of capacity charges, the Commission has approved recovery of fixed charges on the basis of plant availability each month. The Commission shall take a final view on designed energy and NAPAF after getting a proper study of all generating stations in Meghalaya at the time of next tariff filing.

During the proceeding, the Commission has determined the tariff on the basis of the regulation as well as adopting a pragmatic approach in the interest of the all stakeholders. To meet this, the Commission has worked out a simple solution for applying the tariff and recovery of the same from the sole beneficiary of generation from these 8 generating stations. The commission has tried to adopt recovery mechanism of annual fixed charges in such a way that every month 50% of the due charges are given to the generating company by Distribution Company subject to availability of machine duly verified by SLDC and 50% of the remaining charges shall be based on generation from each unit. This will encourage the generating company to perform as per the set targets and maximise their revenue by generating more energy. However, the Commission is always open to suggestions and feed back in case of any difficulty faced by the stakeholders.

Interim tariff for new projects

In accordance with the regulation 47 of MSERC (Terms and Conditions for Determination of Tariff) Regulations 2011 which requires for a new generating station a generating company shall file petition for determination of provisional tariff based on the capital expenditure actually incurred up to the date of making the petition duly audited and certified by statutory auditors and the -provisional tariff shall be charged from the date of commercial operation. Similarly, for final tariff of a generating station shall be filed after the date of commercial operation duly certified by a statutory auditor based on annual audited accounts. MePGCL vide their letter dated 11.02.2013 informed the Commission that unit I & II of Leshka project was commissioned on 1st April 2012 and the infirm power of 21.4 MU is generated. During the public hearing also, the MePGCL informed the Commission that in the year 2013-14 they will be able to generate 440 MU from Leshka project. Accordingly, the Commission is allowing an interim tariff for 2013-14 and directs MePGCL to file a proper tariff petition for determination of tariff for Leshka Hydro Project after proper audit and approval of appropriate authority with regard to technical and financial parameters.

Existing Generation Capacity

MePGCL is the sole State own generating company operating in the State of Meghalaya having 8 (eight) projects. The details of the projects are given in the table below:

TABLE – 2 DETAILS OF THE PROJECTS						
Sl. No	Name of Project	No. Of units	Capacity (Unit wise in MW)	Total capacity (MW)	Designed energy (MU)	Year of commissioning
1	Umiam Stage I	4	9	36	60.70	1965
2	Umiam Stage II	2	10	20	29.50	1970
3	Umiam Stage III	2	30	60	115.30	1975/79
4	Umiam Stage IV	2	30	60	129.50	1992
5	Umtru	4	2.8	11.2	82.30	1957/68 (IV unit)
6	Sonapani	1	1.5	1.5	6.43	2009
7	Leshka	3	42	126	486.23	2012/2013
8	Lakroh	1	1.5	1.5	11.01	2013
	Total			316.20	920.97	

Out of eight projects, two projects namely Leskha (3 unit) and Lakroh are scheduled to be completed in March/April, 2013.

Computation of Generation Energy

Tariff regulations 2011 prescribes that computation of generation energy on the basis of normative annual plant availability factor depending upon the nature of the plant. There is a further allowance of 5% allowed for difficulties in North East Region. Similarly, regulation also prescribes auxiliary consumption and transformation losses in Hydro Electric Plant depending upon nature of the station. The Commission after considering the provisions of the Regulations has tried out to determine the probable generation from each unit of MePGCL stations. MePGCL has given different methodology to find out the normal availability factor of each plant separately. The Commission at this stage is unable to accept the values of such factors without having complete information about the maximum and minimum heads and their impact on the availability of the machine. Since this is the first year of operation, the Commission instead of using designed energy/NAPAF has considered the records of the past generation made from each station. The relevant of availability factor is important because capacity charges are being paid on the availability of the machine. In the State of Meghalaya all stations of MePGCL are producing energy and sending it to the sole distribution licensee of the State for sale to its consumers. The capacity charges are fixed to give minimum financial support to the generating company in case of short generation due to less supply of water.

The Commission is also interested in giving efficient signal to the Company to generate the -maximum to the best of their ability. As per regulation 50% of the AFC (annual fixed charges) are to be paid depending upon the availability of the machine and water and remaining 50% shall be paid on the quantum of generation.

Consolidated ARR for old generating station

MePGCL provided computation of Tariff of six plants namely, Umiam Stage I to IV, Umtru and Sonapani in one single tariff. The rationale behind this is given by the MeECL of non availability of segregated information for each plant. Since this is the first year of operation as a generating company MePGCL does not have its Balance Sheet for 2012-13 (first year of operation). Therefore, the Commission is unable to accept the values of financial and operational on the available record provided by the company without having a proper study.

Past five year generation record

The Commission tried to get information from MePGCL on the generation figures made during last five years. The table given below is showing year wise generation record:

TABLE – 3 FIVE YEAR GENERATION RECORDS								
Sl. No	Name of Plant	Installed capacity (MW)	Designed energy (MU)	Actual Generation (Source MePGCL)				
				FY – 08	FY – 09	FY -10	FY – 11	FY - 12
1	Umiam Stage I	36	60.70	150.633	107.8	110.32	103.80	108.89
2	Umiam Stage II	20	29.50	67.27	48.67	51.2	47.52	12.9
3	Umiam Stage III	60	115.30	149.20	159.7	128.32	132.24	127.5
4	Umiam Stage IV	60	129.50	247.7	193.7	187.1	205	204
5	Umtru	11.2	82.30	49.33	43.95	48.22	15.51	38.04
6	Sonapani	2	11.01				4.9	6.03

TABLE – 4 COMPUTATION OF AVERAGE GENERATION						
Sl. No	Name of Plant	Installed capacity (MW)	Designed energy (MU)	Option I	Option II	Option III
				Avg. Of Past 5 yrs	Best gen In 5 yrs	Worst gen in 5 Yrs
1	Umiam Stage I	36	60.70	116.29	150.6	103.8
2	Umiam Stage II	20	29.50	45.51	67.27	12.9
3	Umiam Stage III	60	115.30	139.4	149.2	127.5
4	Umiam Stage IV	60	129.50	207.5	247.7	187.1
5	Umtru	11.2	82.30	39.01	49.3	15.51
6	Sonapani	2	11.01	5.5	6.03	4.9

The Commission in its Order for 2011-12 & 2012-13 passed on 20th January 2012 had fixed the generation from MeECL (MePGCL as a part of MeECL) as follows:

TABLE – 5 ACTUAL GENERATION RECORD									
Sl. No	Name of Plant	Installed capacity (MW)	Designed energy (MU)	Actual Generation (Source MeECL)					
				2009-10	2010-11	2011-12	2011-12 (As approved)	2012-13	2012-13 (As approved)
1	Umiam Stage I	36	60.70	110.32	103.80	107.25	110.86	108.29	108.29
2	Umiam Stage II	20	29.50	51.18	47.52	12	12.6	37.72	52.74
3	Umiam Stage III	60	115.30	137.25	132.24	150.40	125.28	131.17	131.17
4	Umiam Stage IV	60	129.50	187.31	204.93	203.20	195.05	195.07	195.07
5	Umtru	11.2	82.30	48.22	15.51	18	36	33.24	33.24
6	Sonapani	2	11.01	1.87	5.16	11.83	6.5	7.89	7.89

Analysing the above data the Commission is not agreed to the designed energy estimated by the MePGCL in its Tariff application. Considering the past trend on the basis of available data, the Commission at this stage has allowed the average value of last five years actual generation from each plant. This value shall be considered for determining the tariff for 2013-14. However, the Commission is open to make necessary changes in the next tariff filing depending upon the actual records of generation of past ten years and MePGCL proposal for fixing the designed energy. MePGCL vide its letter dated 25.02.2013 on oath submitted that the average annual generation for the last ten years for six existing generating station is 540.70 MU. This figure is almost matching with the Commission's approved figure of 553.21 MU which is based on recent five years data. Accordingly, the Commission is approving 553.21 MU as the designed energy for six plants in the following manner:

TABLE – 6 PROVISIONALLY APPROVED DESIGNED ENERGY (MU)			
Sl. No	Name of Plant	FY 2013-14 (MePGCL proposal)	FY 2013-14 (MSERC approval)
1	Umiam Stage I	108.30	116.29
2	Umiam Stage II	54.66	45.51
3	Umiam Stage III	133.60	139.4
4	Umiam Stage IV	201.02	207.5
5	Umtru	26.32	39.01
6	Sonapani	6.07	5.5
	Total	529.96	553.21

Auxiliary consumption

MePGCL has given auxiliary consumption and transformation losses for each generating station as per the Regulation in the following table:

TABLE – 7 AUXILIARY/TRANSFORMOTION CONSUMPTION (%)		
Name of the Plant	Auxiliary consumption (%)	Transformation losses (%)
Umiam Stage I	0.7	0.5
Umiam Stage II	0.7	0.5
Umiam Stage III	0.7	0.5
Umiam Stage IV	1.0	0.5
Umtru	0.7	0.5
Sonapani	0.7	0.5

The Commission has agreed on the above proposal.

Determination of Annual Fixed Charges

Component of Tariff

In accordance with the Regulation the Tariff for supply of electricity from Hydro Power Generating Station shall comprise of two parts namely, Annual Capacity Charges and Energy Charges. Fixed charges shall be comprised of following components:

(1) Operation and Maintenance Expenses

(2) Interest on Loan Capital

(3) Interest on Working Capital

(4) Depreciation as may be allowed by the Commission

(5) Return on Equity as may be allowed by the Commission

(6) Taxes on Income.

Return on Equity:

Government of Meghalaya vide its Transfer Schemes 2010 issued on 31st March 2010 has segregated MeSEB into four companies namely, MeECL, MePGCL, MePDCL and MePTCL. In its transfer schemes the generation company has consisted five running power stations including Umiam Stage I to IV. The gross value of fixed assets as on 01.04.2008 was given as 286.49 crores. MePGCL has submitted to the Commission that gross fixed asset (GFA) as on 31.03.2012 for all old existing power stations at Rs.303.96 crores. The value of GFA has relevance for working out the depreciation and return on equity. MePGCL has claimed Rs.12.77 crores as return on equity on the equity based of Rs.91.19 crore. They have also submitted that Government of Meghalaya has notified on 31.03.2012 equity of Rs.248.4 crores. The Commission is at this stage not going into the notification of the State Government for the purpose of determining the tariff. Without the audited records after the transfer schemes is notified, the Commission allows 1/3 of return on equity as allowed in 2012-13 to each utility separately. The Commission shall take a final view on amount of return on equity on the basis of audited accounts of MePGCL, equity shown in the statement of accounts and prudence check. Accordingly, the Commission allows 9.43 crores as return on equity to MePGCL in 2013-14. However, the Commission directs the MePGCL to give the details of assets added in the old power stations from the original GFA of Rs.286.49 crores as on 01.04.2008 up to 31.03.2012.

TABLE – 8 GFA (Rs. Cr.)		
Particulars	As proposed by MeECL	As approved by MSERC
Total GFA (Rs. Cr)	303.96	286.49
Total Equity Amount (Rs. Cr)	91.19	85.95
Return on Equity (%)	14	14
Return on Equity (Rs. Crs)	12.77	9.43*

*1/3rd of previous year allowed ROE.

Depreciation:

Regulation prescribes that for the purpose of depreciation the capital cost of the assets as admitted by the Commission that the opening value is recorded in the Balance Sheet. The transfer schemes also prescribe that all the value of fixed assets, equity and other details shall be taken from the audited balance sheet of MePGCL. The Commission at this stage has no record of Balance Sheet of MePGCL and therefore admitting the depreciation charges provisionally. MePGCL has projected that useful life of all projects namely Umiam Stage I, II, III and Umtru has already completed and therefore no depreciation is proposed for the same. However, MePGCL has claimed Rs.14.11 crore as depreciation charges for R & M of Umiam Stage I & IV. For Sonapani MePGCL has claimed Rs.0.5 crore as depreciation charges. The useful life of the project as per the Regulation is 35 years for Hydro Electric Project. Accordingly, Umiam Stage I (36 MW) has completed its life in the year 2000, Umiam Stage II & III have completed their life in 2005/2009 and Umiam Stage IV has completed 20 years of its life in 2012. Similarly Umtru Power Station has completed its life in 1992. Therefore only Sonapani (1.5 MW) and Umiam Stage IV (60 MW) the depreciation charges need to be allowed. The purpose of depreciation is to make the repayment of principles of the loan and second is to create depreciation reserve for replacement of the machine. Since MeECL has nothing to pay back against these units, therefore, the Commission is allowing them depreciation so as to create a depreciation reserve out of this money for future investment and renovation and modernisation. The cost of the project as per the original DPR is given as 38.79 crores. The Commission is allowing 5.28% as depreciation charges for 2013-14 tariffs.

TABLE – 9 DEPRECIATION (Rs. Cr.)			
Particulars	Project cost (Rs. Cr)	As proposed by MePGCL (Rs. Cr)	As approved by MSERC (Rs. Cr.)
Umiam Stage IV	38.79	14.11	1.85
Sonapani	10.60	0.5	.5
Total depreciation allowed for 2013-14		14.61	2.35

Operation & Maintenance expenditure for old power stations

In accordance with Regulation, O & M expenditure shall include employees cost, repair and maintenance and A & G cost. Regulation prescribes for old power stations which are more than five year old from based year 2007-08, the Commission shall allow actual operation and maintenance expenses. The Commission has directed MePGCL to furnish actual records of O & M expenses for last six months. MePGCL submitted data on actual expenses in the year 2012-13 for the period April to September 2012. The Commission therefore took the records made available by MePGCL to it for determination of tariff for generating stations. MePGCL also provided in the ARR the computation of generation O & M cost on the basis of statements VI of the Audited Balance Sheet wherein cost of supply is distributed in generation, transmission, distribution and common heads. MePGCL has projected on the basis of the actual audited data of five years from FY 2004 to FY 2008 that generation cost to be 25% of the total operation and maintenance cost of MeECL. The common cost relating to stores, management and administration is distributed on the same percentage as was derived for O & M cost. After considering the total cost of operation and maintenance for generation after allocation of common cost, MePGCL has work out cost for 2008-09 after escalating it by 5.17% as given in the regulation. Determining cost for 2008-09 MePGCL has added 50% increase in the employee cost for FY 2010 and work out the O & M cost for FY 2013-14 by escalating it @ 5.72%/. MePGCL in its reply dated 25.02.2013 has given the following details on actual expenses:

TABLE – 10 ACTUAL EXPENSES OF GENERATION INCLUDING MLHEP FOR 2012-13 (Rs. Cr.)						
Sl. No.	Particulars	April – Sept (A)	Oct – March (E)	Arrears	Outstanding	Total
1	R & M	1.15	1.15		4.57	6.87
2	Employees	16.18	16.18	5.12	0.17	37.65
3	A & G	1.18	1.18		0.04	2.4
4	Interest	87.8				87.8
	Total					134.72

The actual expenses towards O & M in 2012-13 are around 47 crores. Normal escalation to these expenditures at 5.72% will be around 50 crores in 2013-14. However, this expense includes the Leshka and Lakroh. As per MePGCL the common cost of MeECL shall be equally divided among three corporations. The actual of management cost in MeECL for 2012-13 is given by MePGCL as below:

TABLE - 11 ACTUAL EXPENSES OF MANAGEMENT (MeECL) FOR 2012-13 (Rs. Cr.)						
Sl. No.	Particulars	April - Sept	Oct - March	Arrears	Outstanding	Total
1	R & M	0.09	0.09		9.73	9.91
2	Employees	28.62	28.62	11.18	0.01	68.43
3	A & G	1.66	1.66		0.12	3.44
4	Interest	0				0
	Total					81.78

Adding one third of the MeECL cost shall give the total expenditures for MePGCL for O & M cost as Rs.74.18 crores which shall include Leshka and Lakroh. If we do not consider the payment of arrear, the total cost of O& M shall be 65.33 Crores for MePGCL in 2012-13. If we reduce this cost for Leshka, it will be around 40 Crores in 2012-13. Applying escalation the O&M cost for 2013-14 shall be around Rs. 43 Crores. The total actual cost including interest shall be around 162 crores which is given in the Table below. If we add RoE and depreciation for payment of principle against the loan taken for Leshka it will be around 200 crores for 2013-14.

TABLE -12 ACTUAL TOTAL EXPENSES OF GENERATION FOR 2012-13 (Rs. Cr.)						
Sl. No.	Particulars	April - Sept	Oct - March	Arrears	Outstanding	Total
1	R & M	1.18	1.18		7.81	10.17
2	Employees	25.72	25.72	8.85	0.17	60.46
3	A & G	1.73	1.73		0.08	3.55
4	Interest	87.8				87.8
	Total					161.98

Accordingly the Commission is allowing the proposed O&M cost at Rs.43.93 crores as the provisional O & M cost for old generating stations except Sonapani, Leshka and Lakroh. However, the Commission shall review this cost at the time of actual records of O & M expenses made during 2013-14 at the time of next filing.

TABLE – 13 O & M EXPENSES (Rs. Cr.)				
	As proposed by MePGCL (Rs. Cr.)			As approved by MSERC (Rs. Cr.)
Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2013-14
R & M expenses	6.58	6.95	7.35	7.35
Employees cost	31.34	33.13	35.02	35.02
A & G cost	1.39	1.47	1.55	1.55
O & M cost for 2013-14	39.30	41.55	43.93	43.93

O & M expenses for Sonapani are allowed at Rs.0.27 crore for 2013-14. Therefore total O & M expenses for old generating stations are Rs. 44.2 crores for 2013-14.

Interest on Working Capital:

The purpose of providing interest on working capital is to meet O & M expenses for one month and receivable equivalent to two months of fixed cost. MePGCL has projected total 3.46 crores as interest on working capital to meet their day to day cash requirement. The Commission has scrutinised from the data provided by MePGCL that they have not spent any amount towards interest paid to Banks for working capital. The Commission is approving AFC to be charged every month from the distribution licensee after one month consumption. Accordingly the Commission is allowing 50% of working capital to MePGCL for 2013-14. However, MePGCL shall submit the actual records of working capital taken from the Bank in the next tariff filing for the purpose of finalisation of this cost. Till such time the Commission is allowing Rs. 1.88 crores as working capital interest for old power station and Sonapani for 2013-14.

TABLE – 14 INTEREST ON WORKING CAPITAL (Rs. Cr.)		
Particulars	As proposed by MeECL (Rs. Cr)	As approved by MSERC (Rs. Cr)
Working capital required for 2013-14 (Rs. CR)	23.5	11.75
Rate of interest (%)	14.75	14.75
Amount of interest on working capital (Rs. Cr) for 2013-14	3.46	1.88

Connectivity and SLDC charges:

Regulation prescribes a claim of SLDC and connectivity charges by generating company. MePGCL has submitted the following charges:

TABLE – 15 SLDC CHARGES (Rs.Cr.)		
Particulars	As proposed by MeECL (Rs. Cr)	As approved by MSERC (Rs. Cr)
SLDC charges for Umiam Stage I	0.23	0.15
SLDC charges for Umiam Stage II	0.13	0.085
SLDC charges for Umiam Stage III	0.38	0.25
SLDC charges for Umiam Stage IV	0.38	0.25
SLDC charges for Umtru	0.08	0.04
SLDC charges for Sonapani	0.01	0.005

The Commission has approved SLDC charges as approved in the Tariff Petition for SLDC for 2013-14 at Rs. 2.62 crores against their demand of Rs.4 crores. Accordingly, the charges for all the beneficiaries are being derived on the basis of the approved figures. MePGCL shall pay Rs.1.31 crores as SLDC charges in 2013-14.

Annual fixed charges approved for existing generating stations except Leshka and Lakroh. On the basis of the actual records and tariff petition the Commission has allowed the following charges as Annual Fixed Charges to be charged from six old generating stations namely, Umiam Stage I to IV, Umtru and Sonapani. The summary is given below:

TABLE – 16 ANNUAL FIXED CHARGES FOR EXISTING PLANT (Rs. Cr.)				
	As proposed by MeECL (Rs. Cr.)			As approved by MSERC (Rs. Cr.)
Particulars	*Old assets*	*Sonapani*	*Total AFC*	*Total AFC*
O & M expenses	43.93	0.27	44.20	44.2
Depreciation	14.11	0.50	14.61	2.35
Interest on Loan	0	0	0	0
Interest on working capital	3.42	0.04	3.46	1.88
Return on Equity	12.77	0.46	13.22	9.43
Income Tax	0	0	0	0
SLDC charges	1.19	0.01	1.20	0.78
Total AFC (Rs. Cr)	75.41	1.28	76.69	58.64
Less Non Tariff Income (Rs. Cr.)	0.05	0	0.05	0.0
Net AFC (Rs. Cr.)	75.36	1.28	76.64	58.64

Recovery of annual fixed charges:

As per the regulation the recovery of annual fixed charges has to be made in two parts namely, capacity charges and energy charges. This year the Commission is allowing the basic principles of recovery of charges through two part tariff in a simpler form. 50% recovery of fixed -charges of Rs.58.64 crores in 2013-14 shall be made in 12 equal monthly instalments from MePDCL which shall be Rs.2.44 crores per month from the generating company for six existing plants. This amount shall be paid by MePDCL to MePGCL every month within seven days of invoice. Remaining terms and conditions shall be as per the Regulation. In addition to the fixed charges, generating company shall also recover 50% of annual fixed charges i.e. Rs.29.32 crores through energy charges on actual production of electricity by it. The energy charges shall be calculated in the following manner:

Saleable energy = 553.21 MU – Auxiliary Consumption and Transformation Losses = 542 MU = 54 paisa per unit.

Allocation of AFC Plant Wise:

Regulation prescribes that annual fixed charges should be determined for each generating station so that the availability of the machine is validated by the concerned Load Despatch Centre on the basis of the schedules provided by each generating station for optimal utilisation of all the energy declared to be available. MePGCL has proposed that due to unavailability of information with regard to old power station like Umiam Stage I & II, they are proposing a common pool tariff for their six existing generating stations. On the basis of the information provided by the MePGCL the Commission has determined the total AFC for 2013-14 for six plants namely: Umiam Stage I, Umiam Stage II, Umiam Stage III, Umiam Stage IV, Umtru and Sonapani. The total installed capacity of the plant is 188.7 MW and the generation available from these plants is 542 MU. For the sake of clarity and efficiency, the Commission has tried to allocate the total annual fixed charges to be recovered from the beneficiary MePDCL in the Financial Year 2013-14 on these plants on the basis of their capacity. This will give a signal to each generating station to make their schedules to SLDC on the basis of their capacity to generate and availability subject to installation of ABT meters. The station wise tariff shall give them a motivation to improve their current level of operation so as to make more generation and get revenue from each extra unit sold by them. This allocation is made only for the purpose of recovery of tariff from the distribution licensee on the basis of generation in 2013-14 from each plant. The Commission has also considered the AFC allocation given by MePGCL vide its letter dated 25.02.2013 which matches the Commission approved figures. The table given below has shown the station wise capacity charges and energy charges in 2013-14.

TABLE – 17 CAPACITY AND ENERGY CHARGES PLANTWISE FOR 2013-14						
Sl. No.	Name of Plant	Capacity (MW)	Designed/Annual Energy(MU)	AFC Allocation (Rs. Cr)	50% as Capacity charges (Rs. Cr.)	50% as energy charges (Rs. /KWH)
1	Umiam Stage I	36	116.29	11.15	5.575	0.485
2	Umiam Stage II	20	45.51	6.20	3.10	0.689
3	Umiam Stage III	60	139.4	18.60	9.30	0.675
4	Umiam Stage IV	60	207.5	18.60	9.30	0.450
5	Umtru	11.2	39.01	3.47	1.735	0.450
6	Sonapani	2	5.5	0.62	0.31	0.570
	Total	**189.2**	**553.21**	58.64	29.32	0.537

MePGCL shall recover fixed charges on per month basis from MePDCL the beneficiary on the basis of availability of machines in accordance with the above table. Similarly, energy charges shall also be recovered in addition to fixed charges on the basis of energy generation from each plant separately. In case of short fall in AFC in 2013-14 due to less generation or less availability of the machine the Commission shall review the matter in next tariff filing and take the action in accordance with regulations.

Leshka Hydro Electric Project:

Background

Myntdu Leshka Hydro Electric Project is situated in Jaintia Hills comprising of three units of 42 MW each. It is reported by MePGCL vide letter dated 11.02.2013 that two machines of MLHEP are commissioned on 01.04.2012 and the last one is supposed to be commissioned in March/April 2013-14. The techno economic clearance of this project was accorded by CEA vide its Letter dated 20.09.1999. At that point of time this project was being looked after by MeSEB. CEA had sanctioned two units of 42 MW each to generate 372.69 MU in a 90% dependable year. The time for completion of the project was envisaged to be five years. The capital cost for two units was approved by CEA at Rs.363.08 crores. The funding of the scheme was accorded at 30% equity and 70% loan including 20% loan from Government of Meghalaya. The hard cost of the project was estimated at Rs. 285.4 crores and Rs.75.9 crores was estimated as interest during construction. The approval was granted with a condition that the estimated cost of the scheme shall not exceed the approved cost except on certain conditions this cost may be reviewed by an expert committee. The conditions on which cost can be varied were as follows:

(1) -Interest during construction subject to the condition shall not exceed Rs.75.9 crores.

(2) -Change in rate of Indian Taxes and Duties such as excise, sale tax, custom, work tax and additional taxes levied subsequent to issue of TEC.

(3) -Change of Indian Law resulting in change in cost.

The TEC was given to MeSEB with this condition that they will timely implement the transmission scheme for evacuation of power and get all statutory clearances. CEA has also mentioned that any financial packages for this project should not be inferior to the financial packages sanctioned in the TEC. They have mentioned that in case the time kept between the techno economic clearances (TEC) of the scheme by CEA and actual start of work on the project by MeSEB is three years or more a fresh TEC has to be obtained by MeSEB. In the TEC, CEA has mentioned that Government of Meghalaya should constitute an expert committee consisting of representatives from MeSEB and Government of Meghalaya to review the enhanced cost if any. Subsequently, MeSEB vide their letter dated 15.02.2007 requested CEA for scrutiny of revised cost estimate for Leshka (84 MW) project. CEA vide their letter dated 16.03.2007 has observed the following:

(1) -Original estimated cost of MLHEP was Rs. 366.08 crores including IDC of Rs.77.72 crores.

(2) -Revised completion cost intimated by MeSEB is Rs.671.29 crores including IDC of Rs.466.68 crores.

(3) -The cost of generation at a capital cost of Rs.671.29 has been shown as Rs.2.83 per unit. However, as per the CERC guidelines at 14% return on equity the cost of production is coming around Rs.3.60 per unit (first year) and Rs.2.68 paisa per unit (levelised).

(4) -The reason for increased in cost has been shown as escalation, inadequate provision of cash, no provision, change in scope and designed and establishment.

(5) -The project is reported to be in full swing and programme to be completed by June 2008.

CEA in their letter dated 16.03.2007 has recommended that the matter is serious and should be investigated by Government of Meghalaya and MeSEB.

MePGCL (a part of MeECL) has submitted a Tariff Petition to the Commission on 14.12.2012 proposing a capital cost of Rs.1173.13 for MLHEP (3 x 42 MW). Since there is a large variation in the capital cost sanctioned by the appropriate authority and actual cost as estimated by MeECL, the

Commission is not in position to accept the actual cost to be passed through in the consumer's tariff without investigation of actual cost and the reasons for deviation made by MeECL and Government of Meghalaya. The Commission is unable to allow this high capital cost in the consumer's tariff without getting the audited and verified accounts as required under the tariff regulations. The Commission has sent the following queries to the MePDCL for its response:

(a) Copies of DPR and Techno Economic Clearances issued by CEA for Leshka Stage I & II and other projects.

(b) Estimated approved cost of the project by CEA and actual expenditure made so far is required to be furnished. Break up of cost overrun with controllable and uncontrollable factor should also be submitted.

(c) The estimation of energy availability as envisaged in the DPR.

(d) Status of commercial agreement/PPA between MePDCL and MePGCL regarding capacity of allocation, annual expected generation and month wise availability of the plant.

The replies of the MePGCL given on 31.01.2013 on the queries are as follows:

(a) It is submitted that in the original project report Leshka was plant to have only two units and hence the annual energy generation based on 90% dependable first for first two units (84 MW) was estimated at 372. 69 MU. However due to excess water availability from April to December a third unit of 42 MW was added to give 113.54 MU additionally. Therefore the total designed energy for Leshka (3 x 42 Mw) is estimated as 486.23 MU.

(b) Copies of TEC for Stage I is enclosed.

(c) CEA has approved TEC of Stage I Leshka (2 x 42 MW) 363.03 crores. MePGCL has submitted that MeECL was required to submit the detailed project cost for approval of CEA after COD achieved. They have mentioned that final approval of the project cost is not available to them from CEA.

(d) The actual expenditure made so far on this project is Rs.1140.98 crores.

(e) MePGCL has submitted that the cost overrun is attributable to several factors such a delay in getting statutory clearances, natural calamities, difficulties in plant erection, revision of estimates, revision is drawings, etc. They have mentioned that the TEC was granted in 1999, however, the project work in October 2004 after the final forest clearance. Even with this date of starting the project was to be completed by 2009. MePGCL has submitted that their cost of capital for MLHEP at Rs.1173.13 crores was approved by MeECL Board's of Directors on 01.06.2012.

(f) In their reply to the Commission, MePGCL has not given the breakup of controllable and - uncontrollable cost overrun on this project. They have only mentioned that total cost overrun -of around Rs.850 crores is uncontrollable. Even now the project is still to be completed its all three units.

After examining the replies of the MePGCL, the Commission is not sure that how much cost on this project should be allowed to be recovered from the consumer's tariff based on prudence check. The last approval from CEA on this project is given in 1999 and after this there is no approval of capital cost from the appropriate authority for tariff purpose.

As per Section 8 (1) of the Electricity Act, 2003, any generating company intending to set up a hydro generating station shall prepare and submit to the Authority for its concurrence, a scheme estimated to involve a capital expenditure exceeding such sum, as may be fixed by the Central Government, from time to time, by notification. In compliance with Section 8(1) of the Electricity Act, 2003, the Central Government vide Notification No. SO 550(E) dated 18.04.2006 has fixed Rs.500 crores as the limit of capital expenditure for various categories of hydroelectric schemes exceeding which the scheme is to be submitted to the Authority for concurrence. Accordingly the Commission is directing MePGCL the following:

(i) - To request to the State Government to constitute an expert committee for examining the cost of the project and take necessary steps to get the approval of CEA after completing the COD of all three units.

(ii) - To file a tariff petition to determine final tariff for Leshka project after COD is achieved in accordance with CERC Regulations.

(iii) - The filing should be based on audited accounts of expenditures incurred on Leshka Project.

In order to validate the claims of MePGCL towards financial commitment in payment of interest on loans, the Commission has examined the actual data submitted on oath. The financial commitment in 2012-13 was Rs.87.8 crores towards interest in finance charges. Out of this Rs.72.95 crores was due to Leshka project as interest charges. Similarly, for principal payment of loan is informed to be Rs.50 crores.

Table 17-a- Actual interest due and paid for MePGCL (Rs. Cr.)			
Sl.	Financial Institutions	Amount due	Amount
1	CBI	9.95	9.88
2	Federal Bank	6.38	7.76
3	PFC	13.37	15.27
4	REC	25.61	15.03
5	Bonds	17.64	17.64
	Total for Leshka Proj in 2012-13	72.95	65.58
7	HUDCO	14.85	9.57
	Total interest due/ paid in 2012-13	87.8	75.15

Considering the financial commitments of MePGCL towards repayment of loans along with interest of PFC and GoM, the Commission is allowing an interim tariff of Rs. 2.83/kWh on the basis of normative standards. SLDC charges of Rs.0.5 crores shall be payable by MePGCL to SLDC. This amount shall be recovered from MePDCL separately. This in an interim arrangement till such time final determination of tariff is completed with due public consultation. This tariff shall give MePGCL Rs.135.54 crores in 2013-14 subject to condition that it generates designed energy in 2013-14 and units are available for generation. This interim tariff is allowed for 2013-14 subject to validation after application of final tariff is received. The Commission has already taken a view that without audit records the Commission is allowing the same ROE as allowed last year to be allotted equally to each company in the State. To enable the MePGCL to ensure that its financial commitments are met, MePDCL is also directed to release the payments against the fixed charges of Rs.67.77 crores distributed equally in 12 monthly instalments provided units are available for generation subject to verification by SLDC. Energy charges shall be paid at the rates approved in table 18 @Rs.1.415/unit for the actual energy generated from MLHEP units on monthly basis. Any adjustment on account of final tariff to be determined by the Commission on the petition of MePGCL after approval of the capital cost by CEA shall be made thereafter.

Lakroh

The project cost of Lakroh project of 1.5 MW is projected by MePDCL at Rs.15.34 crores. The details of the cost of the projects are not submitted with a statutory certificate. Without a certificate of the auditor the Commission is not going into the details of the cost of the project in this tariff filing. Similar treatment as given to Leshka project is being allowed for this project for allowing an interim tariff on normative basis. The final tariff shall be determined after filing of a proper petition with audited records. The designed energy is given as 11.01 MU in 2013-14. The annual fixed cost in the basis of submission of MePGCL is allowed as a provisional cost and shall be validated in the next tariff filing. The interim tariff for lakoh is allowed on normative basis at 74 p /unit. The annual fixed charge for Lakroh project is allowed on normative standards of capital cost of hydro project and is allowed at Rs.0.80 crores for FY 2013-14. As far as recovery is concerned 50% shall be paid as fixed - charges and 50% shall be paid as energy charges in 2013-14. This is a provisional tariff subject to correction after unit is commissioned and ARR for next year is submitted. The fixed charges shall be Rs.0.40 crores and energy charges shall be 37 paisa per unit. SLDC charges of Rs.0.03 crores shall be billed by MePGCL to MePDCL which is to be paid to SLDC.

Recovery of Annual Fixed Cost

Tariff regulations provides that a tariff of hydro generating stations shall have two part tariffs. One is capacity charges which is paid by the beneficiary on monthly basis and another charge shall be energy charges which shall be payable in proportion to energy produced by the generating station. Similarly for units which are not commercially operated the tariff shall be provisional subject to correction at the time of final determination of tariff. Regulation provides that 50% of annual fixed charges shall be given to the generating station subject to the condition that their actual plant availability factor matches with normative plant availability factor. In this tariff order, the Commission is not in position to determine NAPAF for each plant in the absence of proper information and therefore the capacity charges shall be paid by the beneficiary subject to the condition that plant is ready to generate. In the beginning of the month, SLDC shall verify for availability of each generating station for payment of capacity charges and verify the total generation from that plant for payment of energy charges. The monthly capacity charges shall be 1/12 of annual capacity charges and shall be paid proportionately to the availability of plant in each month. The table 16 gives the details of 50% capacity charges and 50% energy charges for each plant. In case of generation is less than the designed energy or generation is more than the designed energy in 2013-14, the provision of regulations shall apply. SLDC shall finalise the schedule for each generation in consultation with the beneficiary MePDCL for optimal utilisation of energy declare to be available.

TABLE – 18 ANNUAL FIXED CHARGES PLANTWISE FOR 2013-14							
Sl. No.	Name of Plant	Capacity (MW)	Designed /Annual Energy(MU)	AFC Allocation (Rs. Cr)	Average Tariff (Rs./Unit)	50% as Capacity charges (Rs. Cr.)	50% as energy charges (Rs. /KWH)
1	Umiam Stage I	36	116.29	11.15	0.970	5.575	0.485
2	Umiam Stage II	20	45.51	6.20	1.379	3.10	0.689
3	Umiam Stage III	60	139.4	18.60	1.350	9.30	0.675
4	Umiam Stage IV	60	207.5	18.60	0.910	9.30	0.455
5	Umtru	11.2	39.01	3.47	0.900	1.735	0.450
6	Sonapani	2	5.5	0.62	1.141	0.31	0.570
7	Leshka	126	486.23*	135.54	2.83	67.77	1.415
8	Lakroh	1.5	11.01	0.80	0.738	0.4	0.369
	Total	316.7	1050.45 *	194.98	1.883	97.49	0.941

* Total designed energy for the purpose of tariff only.

Accordingly, in this petition the Commission has determined annual fixed charges for all 8 generating stations separately for 2013-14. MePDCL the sole beneficiary of generated energy shall pay fixed charges monthly i.e. 1/12 of annual fixed charges + energy charges for the total energy generated from each plant monthly. With this methodology MePGCL shall get Rs.97.49 crores in 2013-14 as fixed charges provided their machines are available and energy charges as per the ARR order approved for MePDCL on the rates as approved in the table-18. However, the energy charges payable by MePDCL shall be in accordance with the generation as allowed in their ARR of 2013-14. In case of any variation in energy charges due to less or more generation of energy or availability of plant the Commission will consider the same for truing up in the next ARR for 2014-15. The generating company shall pay Rs.1.31 crores in 2013-14 to SLDC for load despatch and scheduling. This tariff shall be applied from 1st April, 2013 up to 31st March, 2014 or orders.

(1) Power purchase agreement: The regulation prescribes that there would be a power purchase agreement or commercial agreement between the company and beneficiary company. It will contain all the terms and conditions for purchase of energy and payment thereof. It would also cover the installed capacity and designed energy and the period of supply. The PPA should be in accordance with the tariff regulation notified by the Commission from time to time. Accordingly, the Commission directs the generating company and MePDCL to have a commercial agreement for purchase of energy from MePGCL plants within three months of issue of this order.

(2) MePGCL shall file a tariff petition for new projects like Leshka and Lakroh after their COD is achieved for determination of final tariff.

(3) Regulation prescribes that norms of operation shall be determined for each plant separately by calculating normative annual plant availability factor (NAPAF), auxiliary consumption and transformation losses. This year the Commission is not satisfied with the assumptions taken by the generating company for working out their NAPAF for each plant without any validated supporting information. The Commission directs MePGCL to conduct a study for determining the designed energy, availability, generation, water levels and determine NAPAF based on actual data and submit a report to the Commission with supporting data within six months time.

(4) Performance improvement: The Commission directs MePGCL to conduct a bench marking study of its plant with other efficient utilities to explore further scope of improvement in operational efficiency, optimal utilisation of the sources, man power rationalisation including incentive/disincentive schemes. This study should give bench mark for each plant in respect of key parameters including cost and submit a report within six months of this order.

(5) Renovation and modernisation of existing plant: The Commission directs MePGCL to make comprehensive RMU schemes for efficiency improvement and life extension of old and

existing plants and submit the detailed project report to the Commission within a period of six months giving road map for completing these schemes.

(6) Financial statement of accounts: The Commission directs MePGCL to complete their annual accounts for 2012-13 and get it audited as per the statutory requirement so that in the next year ARR determination the Commission is not handicapped for want of audited data.

(7) It is directed that MePGCL shall open a depreciation reserve account within 30 days of this order wherein the depreciation amount against existing plants shall be deposited. This fund shall be used for renovation and modernisation and other investments. A report shall be submitted at the time of next tariff.

In this tariff order, the Commission has allowed all efficient and prudent cost incurred by the generating company and determine tariff so as to improve their capacity to serve the consumers of the State in a reasonable and efficient manner. In absence of audited accounts for MePGCL and completion of third unit of Leshka and Lakroh project, the Commission has determined tariff for existing plant on actual cost basis and for new plants on provisional basis as an interim measure. However, the Commission shall review the generation tariff for each plant separately at the time of next tariff application when actual cost of each plant shall be filed separately with duly verification and audit. The Commission expects the generating company to complete their ongoing projects in time and within the approved budgets, in accordance with Commission's Orders & Regulations so that they get their legitimate returns and the consumers are also not unduly burdened. The Commission expects from MePGCL to ensure compliances on each directives issued by the Commission in timely manner and the efficiency at each level shall improve from the current level and will be at par with the best standards in the sector.

Finally the Commission would like to appreciate the response from MePGCL for submitting all required information to the Commission as and when required.

(ANAND KUMAR)

CHAIRMAN, MSERC

Annexure-1

RECORD OF TECHNICAL MEETING HELD ON 08.02.2013

Presents: -

Mr. Anand Kumar, Chairman, MSERC

Mr. J. B. Poon, Secretary, MSERC

Mr. Elias Lyngdoh, Director Generation.

Mr. A.M. Kyndiah, CE Generation.

Mr. K.N. War, ACE (Comm).

Mr. G.S. Mukherjee, Company Secretary.

Mr. M.S.S. Rawat, Dy. CEO.

Mr. S. Nongrum, Sr. A.O.

Mr. L. Shylla, SE (Gen).

Mr. A. Lyndoh, SE (P & M).

(1) - A technical session was held on 8th February, 2013 in the Office of the Commission to discuss important issues relating to the ARR filed by MePGCL in determining the tariff for existing and new power plants.

(2) - Chairman, MSERC deliberated on each component of the ARR and its significance in determination of the tariff. A presentation was made by MePGCL showing the details of each component of cost and minimum fund requirement on the basis of projected ARR for 2013-14.

(3) - Chairman, MSERC emphasised to get the actual costs incurred in last six months on the basis of accounting records for existing plant as well as new plants. MePGCL has agreed to give the actual record of past six months from April to September 2012 by 13th February, 2013.

(4) - Chairman, MSERC has explained the provisions of the Tariff Regulations 2011 in determining the annual fixed charges and recovery of the same through two part tariff. He explained that 50% of the cost shall be recovered through fixed charges provided that MePGCL machine is available to generate. Remaining 50% of AFC shall be paid by MePDCL on the basis of the unit costs on the total generation. It was emphasised that this kind of tariff shall encourage the generating stations to optimise their plant and generate maximum. MePGCL has agreed to this approach. Similarly, to optimise the existing plants, the Commission has tried to

allocate the total fixed charges on each plant on the basis of their installed capacity and generation so as to give separate tariff for each plant. MePGCL has agreed to this approach.

(5) -The Commission has explained that for fixing energy charges designed energy is required from each plant. Chairman, MSERC pointed out that designed energy is proposed to be worked out on the basis of previous five years data of generation which was made available to the Commission in the tariff proceedings. MePGCL has agreed to make an attempt to get last ten years data and submit the same by 13th February, 2013.

(6) -Chairman, MSERC pointed out that in accordance with Regulation all new projects which are commissioned after notification of the Regulations, tariff shall be fixed only after getting the project costs details duly audited by statutory auditors. Director, MePGCL has submitted that after COD of Leshka HEP is achieved they will approach CEA for vetting of the capital cost of the project. Till such time MePGCL has agreed upon to get a provisional tariff of Leshka as may be allowed by the Commission.

(7) - Chairman MSERC thanked everyone for attending the meeting and giving their suggestions.

(Anand Kumar)

Chairman-MSERC

Annexure-2

RECORD NOTE OF THE 10 TH MEETING OF THE STATE ADVISORY COMMITTEE HELD AT 2.00 PM ON 30TH JANUARY, 2013 AT THE MSERC CONFERENCE HALL AT SHILLONG.

Present:-

1) Shri Anand Kumar, Chairman, Meghalaya State Electricity Regulatory Commission, Shillong.
2) Shri. S.K. Lato, Jowai.
3) Shri. Ramesh Bawri, President, Confederation of Industries, Meghalaya.
4) Shri. Abhinandan Goswami, representing IEX.
5) Shri. J.B. Poon, Secretary MSERC.
6) Shri. L. Jyrwa, Consultant (Law), MSERC.
7) Shri. W. Rynjah, Ombudsman, MSERC.
8) Shri. D.S. Nongbri, Consultant (F & A), MSERC.

Calling the 10th Meeting of the State Advisory Committee (SAC) to order, the Chairman welcomed the members present. He gave a brief presentation highlighting the salient features of transmission and generation ARR for FY 2013-14. He also briefed the members on the present MSERC (Terms and Conditions of Tariff Determination) Regulation 2011 and implications of each of the component of ARR in the Tariff. Members of the Advisory Committee were briefed that the Commission has admitted ARR petition for transmission, generation and SLDC on 14.01.2013 and MeECL has published the salient features of this petition inviting comments of each stakeholders including public. The Commission has explained about the provisions of Tariff Regulations and two part tariff for generating station. Chairman, MSERC has explained that to balance the interest of beneficiary and developer, the regulation prescribes 50% of the annual fixed charges of each project is paid through capacity charges and 50% of annual fixed charges is paid on the generation on per unit basis. On the ARR & Tariff Petition for the year 2013-14, the Chairman called upon the Hon'ble Members to participate in the deliberations on Generation, Transmission and SLDC and invited their suggestions. Members of the SAC raised the following issues:

(J.. **Shri Ramesh Bawri**

Shri Ramesh Bawri brought about many pertinent issues relating to the petition and submitted that he will also give comments in writing too. He has given following suggestions to the Commission on Generation Tariff.

(1) He has appreciated that separate petitions have been filed by SLDC, MePGCL and MePTCL as required under the Electricity Act, 2003 ('the Act'). This would have led to a much better understanding of the workings of MeECL. However, he has suggested that to consolidate all expenditures record in one single table so that it would be more transparent for the Commission to determine the cost of individual companies in comparison to what approved last year for a single entity.

(2) Mr. Bawri has requested the Commission to review the status of directions given to MeECL last year while finalizing the Tariff Order so that the road map given by the Commission is properly implemented in the interest of the Public.

(3) It appears that some of the calculation sheets are not matching with the other related calculations and therefore it would be difficult to understand the exact numbers in the ARR petition. This leads to an unnecessary exercise of correction on the part of the Commission, besides the Advisory Board and the General Public who may not be aware of the intricacies of law. It is therefore suggested that each subsidiary of MeECL be advised to submit their proposals in accordance with the Regulations in future.

(4) It is requested that, if possible, another **Meeting** of the Advisory Committee be convened for ARR of Transmission and SLDC before finalization of the Tariff proposal.

(5) Mr. Bawri has shown his concerned about the high capital cost of the project incurred in MLHEP (Myntdu-Leshka). He has pointed out that the Commission should review the matter and allow only the reasonable cost of the project inconsonance with national standards. He has also pointed out that there should be some mechanism which forces the management of power stations to optimize the best utilization of their project and give maximum generation to the State. He has agreed to the Commission's proposal that tariff should be related with the generation so that there is an incentive for the generator to generate more than the designed energy. He has also submitted that the machine should be kept in order in monsoon period so that the generation is maximum during water availability.

(6) He has pointed out that designed energy projected by MePGCL is far below the actual - generation made by such stations in last five years. Therefore, he has requested the Commission to review the designed energy and make it as par with the actual generation of each generating station.

(7) In the absence of the accounts for earlier years, it is not possible to comment on the eligibility of **Return on Equity**. It is however suggested that the Hon'ble Commission may kindly verify the eligible amount in accordance with Regulations 51 and 53, keeping the Debt-Equity Ratio norms also in mind.

2. Shri Goswami

Shri Goswami from IEX has agreed to all suggestions given by Mr. Bawri and suggested that MePGCL should go for better utilization of their machines through out the year by proper man management and preventive maintenance of their machines.

3. Shri. S.K Lato

Shri S.K.Lato stated that he also fully supported all the views expressed by Mr. Ramesh Bawri and requested the Commission to take these into consideration while deciding the Tariff for the year 2013-14. He wanted that the performance of MePGCL needs to be improved in terms of better operation and improvement in their current efficiency to work to optimize their resources.

Summing-up the discussions, the Chairman placed on record his profound gratitude to the Hon'ble Members present, for their valuable suggestions and submissions and assured that these would be kept in view, while finalizing the Tariff for the year 2013-14. Next date of meeting for Transmission and SLDC is fixed on 20.02.2013.

(J.B. Poon)

Secretary

MSERC

Annexure-3

RECORD NOTE OF THE 11 TH MEETING OF THE STATE ADVISORY COMMITTEE HELD AT 2.00 PM ON 20TH FEBRUARY 2013 AT THE MSERC CONFERENCE HALL AT SHILLONG.

Present:-

1) Shri Anand Kumar, Chairman, Meghalaya State Electricity Regulatory Commission, Shillong. -

2) Shri. Ramesh Bawri, President, Confederation of Industries, Meghalaya. -

3) Shri. S. S. Agarwal, BIA (Invitee). -

4) Shri. Rahul Bajaj, BIA (Invitee). -

5) Shri. E. Lyngdoh, Director Generation, MePGCL(Invitee). -

6) Shr. G.S. Mukherjee, Company Secretary, MeECL (Invitee). -

7) Shri. MSS Rawat, Dy. CAO, MeECL (Invitee). -

8) Shri. A. Kharpan,SE, SLDC, MePTCL (Invitee). -

9) Shri. M. Marbaniang, SE (T&T), MePTCL (Invitee). -

10) Shri. A. Lyngdoh, SE (G), MePTCL (Invitee). -

11) Shri. F.E. Kharshiing, EE, SLDC, MePTCL (Invitee). -

12) Shri. J.B. Poon, Secretary MSERC. -

13) Shri. L. Jyrwa, Consultant (Law), MSERC. -

14) Shri. W. Rynjah, Ombudsman, MSERC. -

15) Shri. D.S. Nongbri, Consultant (F & A), MSERC. -

Calling the 11th Meeting of the State Advisory Committee (SAC) to order, the Chairman welcomed the members and invitees present. He gave a brief idea of the important issues relating with the ARR for FY 2013-14. Chairman MSERC informed all the participants about the Hon'ble ATE Order dated 15.02.2013 regarding completion of ARR proceedings by 31.03.2013 for FY 2013-14. He also briefed the members on the present MSERC (Terms and Conditions of Tariff Determination) Regulation 2011 and implications of each of the component of ARR in the Tariff. Members of the Advisory Committee were briefed that the Commission has already admitted ARR petition for transmission, generation and SLDC on 14.01.2013 & distribution petition is under examination and may be shortly admitted. The Commission has briefed the members that the new tariff for FY 2013-

14 should be applied from 1st April 2013. Comments on the ARR of transmission and generation received so far have been handed over to licensees for their replies within a week's time. The Commission has explained about the provisions of Tariff Regulations and two part tariff for generating station. On the ARR & Tariff Petition for the year 2013-14, the Chairman called upon the Hon'ble Members and invitees to participate in the deliberations on Generation, Transmission and SLDC and invited their suggestions. Members of the SAC raised the following issues:

1. **Shri Ramesh Bawri**

   Shri Ramesh Bawri has given his suggestions on the ARR for transmission for FY 2013-14. He has raised the issue of transmission losses in the State and has suggested that these losses should be based on the energy accounts. He has also put emphasis on the installation of correct metering at all 132 KV feeders and regular reading of such meters should become a practice. He has suggested that Licensee should adopt a practice of energy audit immediately so that by next year correct figure of losses in transmission is known. He has also raised the validation of the huge amount of investment in the tune of Rs.150 to Rs.200 crores made in the year 2012-13 by transmission licensee. He has suggested to the Commission that there should be some normative of circuit per km so as to validate the claim of the licensee in the ARR. He has suggested that the tariff of the MLHEP project may be considered by the Commission by looking at the standard norms and for the convenience of the consumer the return on equity should not be high.

2. **Shri. S.S. Agarwal**

   Shri. S. S. Agarwal has raised concerned over the high capital cost of Leshka Hydro Project and suggested that it is better to take power from the open market if such high cost has to be incurred. He has suggested that return on investment should not be made a pass through in the tariff otherwise generation cost will be very high.

   Shri. Agarwal has also raised the issue of high transmission losses to be paid by the consumers in the tariff. He has suggested that transmission licensee should convince the Commission by showing the actual losses in the transmission line.

   Shri. Agarwal has inquired from the Company the designed energy of the MLHEP and the estimation of probable generation in 2013-14. MLHEP replied that they estimate 400 to 450 MU in FY 2013-14.

   The Commission has suggested that a presentation shall be made by the Director, Generation on MLHEP/ARR and Director (Transmission) on salient features of the ARR for FY

2013-14 in the open public hearing to be held in the 1st week of March. MePTCL and MePGCL agreed to Commission's proposal.

Summing-up the discussions, the Chairman placed on record his profound gratitude to the Hon'ble Members and invitees present, for their valuable suggestions and submissions and assured that these would be kept in view, while finalizing the Tariff for the year 2013-14.

(J.B. Poon)

Secretary

ANNEXURE – 4

RECORD NOTE OF PUBLIC HEARING ON ARR AND TARIFF PETITION FILED BY MEPDCL, MEPTCL, MEPGCL & SLDC FOR THE YEAR 2013-14 HELD BY MEGHALAYA STATE ELECTRICITY REGULATORY COMMISSION AT 12:00 NOON ON 25TH MARCH 2013 IN THE MSERC CONFERENCE HALL, LOWER LACHUMIERE, SHILLONG.

Record Note of Public Hearing

01. - Chairman, MSERC welcomed all the participants who had come to attend the Public Hearing on the ARR & Tariff Petition filed by MePDCL (Distribution), MePTCL (Transmission), MePGCL (Generation) & SLDC for the FY 2013-14. The Chairman has explained the salient features of the ARR and provisions of the regulation in determining the tariff for ensuing year 2013-14. The Commission has also held meetings with members of State Advisory Committee on 30th January & 20th February wherein deliberations were made on all important issues relating to the ARR. This meeting was also attended by representatives from Industries, Pensioner's Association, and Domestic consumers as special invitees. The Commission invited suggestions from the participants on the ARRs of Generation, Transmission, Distribution and SLDC for FY 2013-14.

02. Following participants, presented their suggestions which are discussed below:

03. - The Byrnihat Industries Association represented by Ms. Swapna Seshadri, Advocate strongly objected on the proposed increase in the Industrial Tariff for FY 2013-14. She insisted that tariff proposal should be based on actual records of expenses. She has raised objection on the tariff proposal filed by MePGCL for Leshka Myntdu Hydro Electric Project without audited data. She insisted on that no final tariff should be given to Leshka Project on the basis of records without any statutory audit and without inviting objections. She has submitted that in accordance with the Commission's Regulation, MePGCL should have filed an application for provisional tariff when the unit was commercially started. She submitted that final tariff for Leshka Project should be determined at the time of filing of tariff petition with audited records and when all units are commercially operated. Similarly, she has raised objection on the projections made by MePGCL with regard to NAPAF for all the machines including Leshka in their petition. She submitted that without any study on availability, the Commission should not agree to their proposal.

04. - On the transmission tariff, she raised that there is no details of assets which were put in for use. She objected that without capitalisation of the assets there should not be any claim on depreciation or equity. Similarly return on equity should also be based on size of equity in accordance with Commission's regulation in 70:30 ratios.

05. BIA has made an objection that O & M expenses should be decided on normative basis in - transmission and it should be controlled in accordance with standard norms. Similarly, for employees cost also she has given a reference of the order made by Hon'ble ATE to introduce efficiency in the operation while sanctioning employees cost. Similarly, they have raised an objection on interest on working capital which should be charged in accordance with correct level of expenses.

06. On the distribution tariff, the BIA has demanded that the expenses given in the ARR petition for 2013-14 should be checked with the actual level of expenses made by MePDCL in previous years. For checking the expenses, she has suggested the Commission to do the truing up exercise. In response to BIA objection, Director (MePDCL), has informed the Commission that due to compliance of Hon'ble Supreme Court Order, MePDCL requires time up to 30.04.2013 to file the updated true up application for FY 2008-09 onwards. BIA did not comment on this.

07. Industries demanded that there should not be any hike for 2013-14 otherwise their business will suffer. They have also requested to provide uninterrupted and quality power supply to run their business smoothly. The Commission has invited suggestions/complaints from industries with regard to improvement in the present supply system and interruption in the power supply so that corrective action may be taken by the Commission at his level.

08. Meghalaya Pensioner's Association requested the Commission that since they have limited source of earning, their tariff should not be increased to the level as proposed by the Distribution Company. They have also suggested that Tariff up to consumption of 240 Units in Domestic category should not be raised and keep it at the same level. MePDCL responded to the objection of Pensioners and informed them that differentiation among the consumers on the basis of paying capacity is difficult as it is not in accordance with the act.

09. - PHE has made a request to the Commission that their tariff should not be higher than industry and commercial and should be based on purpose of use. MePDCL has no objection to it and left the matter to the Commission for decision.

10. - No representative from Shillong Municipality and Tourist attended the hearing as done last year.

The Hearing ended with a vote of thanks from the Chairman MSERC.

(J.B. Poon)
Secretary
Meghalaya State Electricity Regulatory Commission.

LIST OF PARTICIPANTS IN THE PUBLIC HEARING ON 25.03.2013

1. Representing the Petitioner (MePDCL/MePTCL/MePGCL/SLDC). -

1. Shri. E. Lyngdoh, Director (D)
2. Shri. P. Lyngdoh, Director (D)
3. Shri. C. Kharkrang, CE (D)
4. Shri. E. Slong, CE (T & T)
5. Shri. K. N. War, ACE (Com)
6. Shri. A. Lyngdoh, SE.
7. Shri. S.B. Umdor, SE (RO)
8. Shri. L. Shilla, SE (Gen)
9. Shri. A. Kharpran, SE, (SLDC)
10. Shri. M. K. Chetri, SE (T)
11. Shri. R. Syiem, SE (T&T)
12. Shri. P. Sahkhar, SE (RA&FD).
13. Shri. F.E. Kharshiing, EE, (SLDC)
14. Shri. W.R. Basaiawmoit, CAO
15. Shri. M.S.S. Rawat, Dy CAO
16. Shri. S. Nongrum, SR. AO

2. Inspectorate of Electricity

Shri. P. K. Sohkhlet, Senior Electrical Inspector

3. Byrnihat Industries Association/Other industries.

1. Ms. Swapna Seshadri, Advocate.
2. Shri. S S Agarwal
3. Shri. R Bajaj
4. Shri. U. Agarwal
5. Shri. R. Choudhury
6. Shri V.Kr. Agarwala
7. Shri. S. Gupta.
8. Shri. A. Suleka
9. Shri. J. Kumar
10. Shri. A. Rai, Star Cement
11. Shri. S. Agarwal, Meghalaya Steels
12. Shri. M.K. Rai, Star Cement
13. Shri. P.K. Mour, NFAPL

4. Meghalaya Pensioner Association.

1. Shri. B E Wahlang
2. Shri. J.B. Kar

5. Public Health Engineering (PHE) Department.

1. Shri. S. R. Chanda, Addl. CE (PHE)
2. Shri. H.S. Nongkynrih, SE (MSE) Electrical Circle, Shillong.
3. Shri. Y. K. B. Singh, EE

6. Greater Shillong Crematorium and Mortuary Society

Shri. J. Malakar