

TARIFF ORDER

2012-2013

For

Power & Electricity Department,
Government of Mizoram

**JOINT ELECTRICITY REGULATORY COMMISSION
FOR MANIPUR AND MIZORAM
D-31, MG Road, Upper Khatla, Aizawl, Mizoram**

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LIST OF ABBREVIATION

Abbreviations	Description
A&G	Administrative and General
AAD	Advance Against Depreciation
ARR	Aggregate Revenue Requirement
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CWIP	Capital Work in Progress
DPS	Delayed Payment Surcharge
EA	Electricity Act 2003
FSA	Fuel Surcharge Adjustment
FY	Financial Year
GFA	Gross Fixed Assets
GOI	Government of India
HEP	Hydro Electric Project
HT	High Tension
IEX	Indian Energy Exchange
kV	Kilovolt
kVa	Kilovolt-ampere
Kw	Kilowatt
kWh	Kilowatt-hour
LT	Low Tension
MDI	Maximum Demand Indicators
MU	Million Unit
NEEPCO	North Eastern Electric Power Corporation
NHPC	National Hydro Electric Power Corporation
NTI	Non-Tariff Income
O&M	Operations and Maintenance
PED	Power & Electricity Department
PLF	Plant Load Factor
PLR	Prime Lending Rate
PPA	Power Purchase Agreement
PWW	Public Water Works
R&M	Repair and Maintenance
RoE	Return on Equity
T&D	Transmission and Distribution
UI	Unscheduled Interchange

Before

**The Joint Electricity Regulatory Commission (JERC) for Manipur and Mizoram,
Aizawl**

Present

Mr. H. Bihari Singh, Chairperson

Petition No. 1 of 2012

In the matter of

**Aggregate Revenue Requirement (ARR) and Retail Tariff for the State of
Mizoram for the FY 2012-13**

AND In

the matter of

**Power and Electricity Department
Government of Mizoram, Aizawl
Petitioner
(herein referred to as PED)**

ORDER

Date: 25th July, 2012

1. Introduction

1.1 JERC for Manipur and Mizoram (JERC, M&M)

In exercise of the powers conferred by the Electricity Act 2003, (hereinafter referred to as Act) the Government of India constituted a Joint Electricity Regulatory Commission for the States of Manipur and Mizoram to be known as “Joint Electricity Regulatory Commission for Manipur and Mizoram” vide GOI. Gazette (Extra Ordinary) Notification No.23/3/2002 R&R dated 18/01/2005, (hereinafter referred to as Commission) as per the authorisation given by the Government of Manipur and the Government of Mizoram vide Memorandum of

Agreement dated 23/07/2004. The Commission constituted is a two-member body designated to function as an autonomous authority responsible for regulation of the power sector in the States of Manipur and Mizoram. The powers and functions of the Commission are as prescribed in the Act. The head office of the Commission is presently located at Aizawl, the capital town of Mizoram. The Commission became functional w.e.f. 24th January, 2008.

1.1.1 In accordance with the provisions of the Act, the Joint Commission discharges the following functions:

- (a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State: Provided that where open access has been permitted to a category of consumers under Section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;
- (b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;
- (c) facilitate intra-State transmission and wheeling of electricity;
- (d) issue licenses to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;
- (e) promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;
- (f) adjudicate upon the disputes between the licensees and generating companies; and to refer any dispute for arbitration;
- (g) levy fee for the purposes of this Act;
- (h) specify State Grid Code consistent with the Grid Code specified under Clause (h) of sub-section(1) of Section 79;

- (i) specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
- (j) fix the trading margin in the intra-State trading of electricity, if considered, necessary;
- (k) discharge such other functions as may be assigned to it under this Act.

1.1.2 Further, the Commission also advises the State Government on all or any of the following matters namely:

- (a) promotion of competition, efficiency and economy in activities of the electricity industry;
- (b) promotion of investment in electricity industry;
- (c) reorganization and restructuring of electricity industry in the State;
- (d) matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by that Government.

1.1.3 The State Commission ensures transparency while exercising its powers and discharging its functions.

1.1.4 In discharge of its functions, the State Commission is guided by the National Tariff Policy (NTP) as brought out by GOI in compliance to Section 3 of the Act. The objectives of the NTP are to:

- (a) ensure availability of electricity to consumers at reasonable and competitive rates;
- (b) ensure financial viability of the sector and attract investments;
- (c) promote transparency, consistency and predictability in regulatory approaches across jurisdictions and minimize perceptions of regulatory risks;
- (d) promote competition, efficiency in operations and improvement in quality of supply.

1.2 P & E Department (PED) and Tariff Petition

PED, being an integrated utility, is responsible for generation, transmission, and distribution of electricity in the State of Mizoram and also trading functions through its SLDC.

As per the Tariff Regulations, the utility was required to submit the ARR and file the Petition in the Month of November for fixing the Tariff for the next financial year. Accordingly, the PED was asked to file the Tariff Petition for the year 2012-13 at the right time. However, the Department filed Tariff Petition for the FY 2012-13 on 21/02/2012. In the petition PED estimated an ARR of Rs. 34410.39 lakhs and considered a tariff support of Rs.23479.10 lakhs as subsidy by the State Government and worked out a net revenue gap of Rs.1017.43 Lakhs.

1.3 Admission of Petition and Public Hearing Process

The Commission observed that the ARR filed by the petitioner was incomplete and lacking critical and vital information required as specified in Commission's Regulations on Terms and Conditions for Determination of Tariff.

PED was asked to submit the required information vide Commission's letter No. H. 200/4/12-JERC dt. 29.02.2012.

Pending receipt of additional information the ARR and Tariff Petition was admitted on 12.4.2012 and marked as Petition No. 1 of 2012 to avoid delay in processing of ARR.

The Commission directed the PED to publish the summary of the ARR and tariff proposal in the abridged form and manner as approved in accordance with section 64 of the Electricity Act 2003 to ensure public participation.

The notification of the proposed ARR and the tariff schedule for FY 2012-13 was published by the PED in the following newspapers.

Sl.No.	Name of the newspaper	Language	Date of publication
1	Zozam Times	Mizo	28& 30.4.2012
2	News Link	English	30.4.201& 1.5.2012

Through the public notice, the stakeholders/public were invited to furnish their objections and suggestions on the petition on or before 07.05.2012

The Commission has not received any objection / suggestion on the petition filed by PED.

Subsequently the PED was asked to submit additional information in addition to the information called for, in the above reference, vide Commission's letters listed below:

1. No. H. 20011/4/12 – JERC dt 23.03.2012
2. No. H. 20011/4/12 – JERC dt 23.04.2012

3. No. H. 20011/4/12 – JERC dt 23.04.2012
4. No. H. 20011/4/12 – JERC dt 14.05.2012
5. No. H. 20011/4/12 – JERC dt 15.05.2012
6. No. H. 20011/4/12 – JERC dt 15.05.2012
7. No. H. 20011/4/12 – JERC dt 20.05.2012
8. No. H. 20011/4/12 – JERC dt 25.05.2012
9. No. H. 20011/4/12 – JERC dt.05.06.2012
10. No. H. 20011/4/12 – JERC dt 28.06.2012

PED has submitted additional data / information / clarifications etc vide their letters listed below:

1. T-23011/02/10-E-in-C (P)/Com/10 dt. 30.04.2012
2. T-23011/02/10-E-in-C (P)/Com/11 dt. 30.04.2012
3. T-23011/02/10-E-in-C (P)/Com/12 dt. 30.04.2012
4. T-23011/02/10-E-in-C (P)/Com/19 dt. 20.05.2012
5. T-23011/02/10-E-in-C (P)/Com/18 dt. 22.05.2012
6. T-23011/02/10-E-in-C (P)/Com/21 dt. 24.05.2012
7. T-23011/02/10-E-in-C (P)/Com/22 dt. 25.05.2012
8. B. 19018/9/2010-P&E dt. 08.06.2012
9. T-23011/11/EC(P)/Com/25 dt. 14.06.2012
10. T-11011/01/11-EC(P)/Com/27 dt. 02.07.2012
11. T-23011/02/11-EC(P)/Com/31 dt. 19.07.2012

1.4 Notices for Public Hearing:

A notification was published by the Commission in the following leading newspapers for giving due intimation to all stakeholders, general public, interested parties, and consumers about the public hearing to be held at Aizawl on 3rd July 2012.

Sl. No.	Name of the News-paper	Language	Date of Publication
1	Vanglaini	Mizo	21 st and 25 th June, 2012
2	Highlander	English	21 st and 22 nd June, 2012

1.5 Public Hearing:

Public hearing was held as scheduled on 3rd July 2012 at the conference Hall of I & PR Department, Aizawl. During the public hearing each objector was provided a time slot for presenting his views on the petition of PED before the Commission. The main issues raised by the objectors during the public hearing along with response of PED are briefly reproduced in Chapter - 5.

1.6 Meeting of State Advisory Committee

The State Advisory Committee met on 28.05.2012 and discussed the ARR & Tariff proposal for FY 2012-13 of PED, Mizoram. The minutes of the Advisory Committee meeting are given in Annexure – III.

2. Summary of ARR & Tariff Petition

2.1 Aggregate Revenue Requirement (ARR)

The Power and Electricity Department, Government of Mizoram in its petition has submitted the Aggregate Revenue Requirement for the year 2012-13 for meeting its expenses and the estimated revenue during the year with the existing tariff. The ARR and revenue gap are shown in Table 2.1 below.

Table – 2.1: Aggregate Revenue Requirement for FY 2012-13

(Rs. in lakh)		
Sl. No.	Particular	2012-13
1	Fuel Cost	2.80
2	Power Purchase Cost	18568.01
3	Operation & Maintenance Expenses	
3.1	Employee Cost	8052.30
3.2	Repair & Maintenance Expenses	4311.40
3.3	Administration & General Expenses	475.70
4	Depreciation	2545.66
5	Interest & Finance Charges	136.68
6	Interest on Working Capital	386.08
7	Provision for bad debts	109.30
8	Sub Total	34590.39
9	Return on Equity	-
10	Total Expenditure	34590.39
11	Less: Non Tariff Income	180.00
12	Aggregate Revenue Requirement	34410.39
13	Revenue from existing tariff	9913.86
14	Gap (12-13)	24496.53
15	Govt. subsidy	23479.10
16	Net gap	1017.43

PED has requested the Commission

- To condone the delay in filing Aggregate Revenue Requirement and Tariff Petition for FY 2012-13.
- To approve the aggregate revenue requirement (ARR) for FY 2012-13.
- To determine the tariff for FY 2012-13 based on tariff proposed by the PED for recovery of revenue gap.
- To approve capital expenditure as indicated in the petition.

- (e) To create regulatory asset for any unmet gap remaining after tariff revision for FY 2012-13.
- (f) To grant any other relief as the Commission may consider appropriate. The petitioner craves leave of the Commission to allow further submission, addition and alteration to this petition as may be necessary from time to time.
- (g) To pass such other order as the Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice.

2.2 Tariff

The PED, Govt. of Mizoram in its petition has submitted the proposed tariff for the FY 2012-13 as per the table 2.2 below:

Table 2.2 : Existing V/s. Proposed Tariff

Category	Slab-wise (in kWh)	Fixed Charges		Energy Charges	
		Existing r/Conn	Prop.r/ Con or kw	Existing r/kwh	Proposed r/kwh
1	2	3	4	5	6
LT Consumers					
Domestics (KJ)	a) 1-15	10	10	0.90	1.00
	b) 16-30	10	10	1.05	1.20
	c) Above 30	10	10	1.50	1.70
Domestics (RES)	a) 1-50	25	25	1.50	1.75
	b) 51-100	25	25	1.85	2.10
	c) 101-200	25	25	2.50	2.80
	d) Above 200	25	25	3.50	3.90
COM	a) 1-100	50	50	2.30	2.60
	b) 101-200	50	50	3.60	4.00
	c) Above 200	50	50	4.00	4.45
Public Lighting	All Units	50	50	4.25	4.75
PWW	All Units	50	50	4.00	4.40
Irrigation & Agri	All Units	20	20	1.10	1.25
SI	a) 1-400	50	50	3.00	3.50
	b) Above 400	50	50	3.50	4.00
HT Consumers					
Domestic	All Units	30	30	3.00	3.30
Commercial	All Units	60	60	3.80	4.20
PWW	All Units	80	80	3.80	4.20
Irrigation & Agri	All Units	30	30	1.10	1.25
Industrial	All Units	80	80	3.00	3.30
Bulk Power	All Units	80	80	3.00	3.30

3. Power Sector in Mizoram

Power supply scenario in the State as per the tariff petition are as given below:

3.1 Geographical Reality

The PED is responsible for supply and distribution of electricity in the State of Mizoram, which has a total area of 21087 Sq KM in its eight districts (Viz) Aizawl, Mamit, Kolasib, Champhai, Serchhip, Lunglei, Lawngtlai and Saiha. The State shares more than 700 Kms of international boundary with Bangladesh and Myanmar. The total population of Mizoram State is 10.92 lakhs as per 2011 census. The per capita consumption is 219 kWh as on 31/03/2011. PED serves about 1.78 lakh consumers of various categories at the end of March, 2012.

3.2 Power supply

3.2.1 Local Generation

PED has Generation from its own generating plants, for the year 2011-12. The total installed capacity of the State owned generating stations and the actual energy generation during 2010-11 are as detailed in Table 3.1 below:

Table-3.1: Local Generation

Sl. No.	Station	Installed Capacity (MW)	Gross Generation (MU)	
			2010-11 (A)	2011-12 (P)
I	Hydel	29.35		
1	Serlui 'A'	1.00	0.63	0.61
2	Tuirivang	0.30	Damaged	Damaged
3	Khawiva	1.05	1.30	1.60
4	Tuipui	0.50	1.52	1.20
5	Maicham-I	2.00	4.65	3.00
6	Teirei	3.00	1.93	2.08
7	Tuipanglui	3.00	2.08	1.50
8	Kau-Tlabung	3.00	3.74	6.10
9	Lamsial	0.50	0.15	0.24
10	Maicham-II	3.00	0.62	2.00
11	Serlui 'B'	12.00	15.3	0.00
II	Diesel			
1	Lengpui	0.50	0.01	0.02
III	HFO			
1	Bairabi	22.92	1.72	0.00
	Total	52.77	33.65	18.35

PED stated that out of its own generation plants of 52.77 MW the diesel

generating set of 0.50 MW is for Lengpui Airport and the heavy fuel plant of 22.92 MW at Bairabi is kept on standby mode for the purpose of meeting the emergency requirements. The rest are mini Hydel plants having seasonal generation.

3.2.2 Power Purchase

The State is dependent on outside sources for meeting its energy requirement. The State has share from Central Sector Generating Stations and total firm share from the Central Sector Generating Stations of NEEPCO, NHPC and NTPC is 73.48 MW. Apart from this PED is also getting power to a tune of 10.5 MW from NEC funded Baramura gas based thermal power plant and 22 MW from Palatana gas based power plant in Tripura state. Therefore the total allocation to Mizoram from its share of power from the generating stations outside the State is 106.00 MW as depicted in the Table 3.2 below:

Table-3.2: Share from Central Generating Stations (CGS)

Sl. No.	Name of the station	Share from firm allocation (%)	MW
A. Central Sector			
1	Koppili I HEP (200MW)	4.618	9.24
2	Koppili II HEP (25MW)	6.278	1.57
3	Khandong HEP (50MW)	3.940	1.97
4	Ranganadi HEP (405MW)	5.710	23.13
5	Doyang HEP (75MW)	5.240	3.93
6	Assam gas based projects (291MW)	5.428	15.80
7	Agartala gas based project (84MW)	6.190	5.20
8	Loktak HEP(105MW)	5.068	5.32
9	Farakka STPP (1600 MW)	0.214	3.42
10	Kahalgaon STPP I (840 MW)	0.210	1.76
11	Talcher STPP I (1000 MW)	0.214	2.14
	Total (CS) (4675 MW)	1.560	73.48
B. State Sector			
12	Baramura GTP IV & V (42 MW)	25.000	10.50
C. Joint Sector			
13	Palatana		22.00
	G. Total (4702 MW)	26.560	105.98

(Table 1.2 of Petition)

say 106.00 MW

The energy drawn from various central generating stations and Tripura during 2009-10 and 2010-11 and estimated drawal for 2011-12 are given in Table 3.3 below:

Table – 3.3: Energy drawal trend from sources outside the State

Sl. No.	Station	Energy Drawl (In MU)		
		FY 2009-10	FY 2010-11	FY 2011-12
		Actual	Actual	Provisional
A	Central Sector	242.84	272.34	272.34
	Hydro			
1	Kopill - I HEP (200 MW)	32.21	32.06	32.06
2	Kopili - II HEP (200 MW)	4.91	5.02	5.02
3	Khandoni HEP (50MW)	5.90	6.20	-
4	Ranga nadi HEP (405MW)	58.19	79.93	79.93
5	Doyang HEP (75MW)	9.03	12.84	12.84
	Total Hydro	110.24	136.05	136.05
	Gas Based			
6	Assam Gas based Power	92.81	97.60	97.60
7	Agartala Gas Turbine Power	39.79	38.69	38.69
	Total Gas Based	132.60	136.29	136.29
	Loktak HEP (105 MW)	25.66	29.93	30.00
	Eastern Power (NTPC)			
8	Fakakka STPP	0.00		19.20
9	Kahalgaon STPP-I	0.00		12.00
10	Talcher STPP-I	0.00		16.80
	Total Eastern Power	0.00	0.00	48.00
B	Tripura - Baramura			
11	Tripura - Baramura	41.08	45.98	79.00
	Total - B	41.08	45.98	79.00
	Total (A+B)	309.58	348.25	429.34

(Ref: Table 2-8 of Tariff Petition)

3.3 Transmission and distribution

For drawing power from CGS and other outside sources, there are 3 (three) Nos. of 132kV transmission lines owned by PGCIL connecting Mizoram as given below.

- (a) 132kV S/C Jiribam (Manipur) – Aizawl
- (b) 132kV S/C Badarpur (Assam) – Aizawl
- (c) 132kV S/C Kumarghat (Tripura) – Aizawl

All these lines terminate at 132KV Luangmual SS, Aizawl under PGCIL, from where power is drawn to different load centers through 2 (two) No. 132 kV lines of PED.

Being a hilly State with its population unevenly dispersed to the remote areas, the State of Mizoram is having large network of HT and LT lines as well as distribution transformers.

The details of transmission and distribution network, owned & operated by PED as on 31/03/2010 are given in Table 3.4 below:

Table – 3.4: Transmission and Distribution Network

Sl. No.	Voltage	Transmission lines (cKt KM)	Substations (Nos.)
1	132kV	638.37	7
2	66kV	117.00	
3	33kV	828.03	39
4	11kV lines	4292.41	
5	LT lines	2251.97	
6	Power transformers		70
7	Distribution transformers		1245

3.4 Transmission and distribution (T&D) losses

The transmission and distribution losses of PED system were given as 33.39% during the year 2010-11 and as 27.16% during the year 2011-12 including external pool losses. The technical and commercial losses are not segregated.

3.5 Consumer profile and Energy sales

The consumers profile and corresponding energy sales during the year 2011-12 are given in Table 3.5 below.

Table – 3.5: Consumer Profile and Energy Sales – 2011-12

Sl. No.	Consumer category	No. of consumers	(%)	Energy sales (MU)	(%)
1	Kutir Jyothi (Domestic)	14047	7.89	3.394	1.34
2	Domestic (LT+ HT)	157307	88.40	167.522	66.9
3	Commercial (HT + LT)	4950	2.78	18.888	7.54
4	Public lighting	763	0.04	6.044	2.41
5	Irrigation & Agri (LT + HT)	16	0.01	0.095	0.01
6	Public Water Works (LT + HT)	38	0.02	36.283	14.49
7	Industrial (LT)	599	0.03	0.554	0.02
8	Industrial (HT)	11	0.01	0.329	0.01
9	Bulk supply (HT)	213	0.01	17.312	6.91
	Total	177944		250.421	

3.6 Demand

The restricted peak power demand of PED during FY 2010-11 was 75MW. During FY 2012-13 with seasonal and peak period restrictions the demand is expected to be around 107 MW. The allocation (firm and infirm) from various central generating stations and NEC funded Baramura Gas Based Thermal Power Plant is, 105.98 MW. The short fall is partly met by procuring power from Power exchanges and through unscheduled interchange.

The energy requirement estimated by PED for the year 2011-12 was 447.69 (Power purchase 429.34 MU + own generation 18.35 MU).

3.7 Energy Audit

PED is not conducting Energy Audit effectively- neither at the state level nor at the consumer end. At present, the PED does the calculation of loss by taking the energy input at 132kV and energy sales at consumer end and the difference is shown as distribution loss, which cannot be termed as energy audit. As a matter of fact, energy audit should be conducted Voltage wise and computed with standard norms. Any high loss areas should be identified and analysed and effective measures to be taken to bring down the losses to the permissible limits. To achieve this all the line feeders, transformers and consumers should be provided with standard meters.

3.8 Energy Metering

PED has completed 97% consumers metering. Most of the meters are static type. These are not tested for many years. No MDI meters are provided. Metering of 33KV, 11KV feeders and DTs are not completed.

3.9 Continuity of Power Supply

All the District Head Quarters are given a continuous power supply. In remote areas and outskirts of the District Headquarters of the State, there are load sheddings during dry season.

3.10 Financial Position

Statement of Income & Expenditure for FY 2010-11

Expenditure	Rs. Lakh	Income	Rs. Lakh
Fuel Cost	28.73	Revenue from operations	7944.00
Power Purchase Cost	7217.00	Other Income	162.00
O&M Expenses	7544.54	Subsidy from Government of Mizoram	9175.04
Depreciation	1679.00		
Int & Finance	667.00		
Interest on working capital	144.77		
Total	17281.04	Total	17281.04

4. Review of ARR of 2010-11

4.1 Back ground

- 4.1.1 The Commission had issued First Tariff Order for the FY 2010-11 based on the petition filed by PED Mizoram in September 2010. PED had estimated an ARR of Rs. 19695 lakhs considering tariff support of Rs. 11762 lakhs from the Government of Mizoram.

The expected revenue with the existing tariff was estimated at Rs. 6431 lakhs by PED. The Petition was with a number of data gaps.

- 4.1.2 The ARR & Tariff petition for FY 2010-11 was analysed and Tariff Order was issued with the data made available. The Commission has now considered to review the performance of the PED based on actuals for FY 2010-11. The true-up could not be done in the absence of Audited accounts for the year.

4.2 Energy sales Analysis

The PED has reported the actual energy sales at 237.56 MU as against 230.34 MU approved by the Commission for the FY 2010-11. The Category wise actual sales during the FY 2010-11 as reported vide Table 2.1 of the Petition for FY 2012-13 is analysed here under:

4.2.1 Kutir Jyoti

PED has not segregated the sales of Kutir Jyoti from the Domestic Category in the projections. But the reported actuals for FY 2010-11 at 6.50 MU are considered for review.

4.2.2 Domestic (including Kutir Jyoti)

The Commission approved sales for Domestic Category at 155.45 MU for FY 2010-11 against which; PED has reported actual sales at 174.40 MU. This accounts to about 12% increase over approved sales.

The Commission considers the Domestic sales at 174.40 MU for the FY 2010-11.

4.2.3 Commercial

The PED reported actual sales of this category at 14.65 MU against 16.38 MU approved for the FY 2010-11. The actual sales are lower than what is approved by the Commission.

The Commission considers the sales of Commercial Category at 14.65 MU for the FY 2010-11.

4.2.4 Public Lighting

The Commission had approved the sales at 8.0 MU considering that there is no definite trend in the consumption for the previous six years. The actual sales reported for the year FY 2010-11 are 7.04 MU. The PED has not stated reasons for negative growth for FY 2010-11. PED shall ensure building up of the sales database with reference to fixtures in use and assess accurate sales, since this category has a definite upward growth as a public facility.

The Commission however considers the sales of this category at 7.04 MU (Actuals) for FY 2010-11 as reported at Table 2.1 of the Petition.

4.2.5 Irrigation & Agriculture (HT & LT)

The Commission had approved 0.001 MU for the FY 2010-11 in the Tariff Order as against which the actual sales are 0.121 MU.

The Commission considers 0.121 MU sales for Irrigation & Agriculture category for FY 2010-11.

4.2.6 Public Water Works

The Commission has approved 35.18 MU as projected by PED for the FY 2010-11.

PED reported actual sales of this category at 27.29 MU for FY 2010-11, which is 22.43% less than the approved levels. Sale to the unmetered categories of consumers is very low. The PED shall analyse the unmetered sales properly while replacing the defective meters to ensure maximum sales to be brought to assessment, and revenue billing.

The Commission considers sales of this category at 27.29 for FY 2010-11.

4.2.7 LT Industrial

The PED has not provided the breakup data of HT & LT Industrial sales. Commission had approved 2.64 MU sales as projected by PED.

The actual sales of the LT Industry is reported at 1.57 MU and HT Industry at 0.31 MU for the FY 2010-11, in total is 1.88 MU. The sales to LT & HT industry are lower than the approved sales.

The Commission considers sales of both LT & HT Industries at 1.88 MU for the FY 2010-11.

4.2.8 Bulk Supply

The Commission had approved sales at 12.69 MU for this category considering 5% growth over the actual sale of FY 2009-10.

The PED has reported 12.18 MU sales for this category, which is in declining trend compared with the number of consumers and connected load profile over the years from 2004-05 to 2009-10. This requires to be checked up.

The Commission considers the sales at 12.18 MU as reported for the FY 2010-11.

4.2.9 Summary of the sales achievement against the approved sales for the FY 2010-11

Energy Sales for FY 2010-11

Sr. No.	Category	Projected by PED (FY 2010-11) (MU)	Approved by the Commission (MU)	Considered in the review based on actuals (MU)
1	(a) Kutir Jyothi	--	--	6.50
	(b) Domestic	143.75	155.450	167.90
2	Commercial	15.69	16.380	14.65
3	Public lighting	4.95	8.000	7.04
4	Irrigation & Agriculture	0.00	0.001	0.121
5	Public Water Works	35.18	35.180	27.29
6	LT Industrial (HT Industrial)	2.64	2.640	1.88 (LT & HT)
7	Bulk Supply	12.62	12.690	12.18
	Total	214.83	230.341	237.56

The overall performance in the sales of the PED is found to be satisfactory, while the achievements are lower, compared to approved sales in the categories of commercial, public water works, LT Industrial and Bulk Supply.

4.3 T & D Loss

T&D losses approved by the Commission in the Tariff Order and actuals for FY 2010-11 are as below:

Sr. No.		Approved by the Commission	Actuals for FY 2010-11
1	Energy Sales (MU)	230.34	237.56
2	T&D loss including external loss	124.00 (35%)	152.04(39.02%)
3	Energy requirement by the state (MU)	354.34	389.60

4.4 Energy Requirement & Energy Balance

Energy Requirement and Availability for FY 2010-11

Sr. No.	Particulars	Units	Approved by the Commission	Actuals for FY 2010-11	Considered in review for FY 2010-11
1	Energy Sales	MU	230.34	237.56	237.56
2	Distribution Loss	MU	124.00	152.04	152.04
3	Distribution Loss	%	35.00	39.02	39.02
4	Energy Requirement at State periphery	MU	354.00	389.60	389.60
	Energy availability				
5	Own generation	MU	43.00	33.66	33.66
6	Power purchase	MU	355.00	348.25	348.25
7	Less Pool Loss	MU	12.00	12.19	12.19
8	Pool Loss	%	3.50	3.50	3.5
9	Net trading / UI (±)	MU	- 32.00	+ 19.88	+ 19.88
10	Energy availability (5+6-7+9)	MU	354.34	389.60	389.60

The Commission approved for purchase of 38 MU and sale of 70MU through trading / UI mechanism.

4.5 Own Generation

PED has projected 22.59 MU own generation for the FY 2010-11. But the Commission approved 43.30 MU as given in Table 5.12 of the Tariff Order. The actuals now furnished by PED at 33.66 MU for less than the generation approved by the Commission due to unprecedented shutdown of Serlui – B.

4.6 Purchase of Power

PED projected purchase of 392.95 MU, the procurement includes 37.57 MU UI purchase.

The Commission after detailed analysis approved purchase of 392.95 MU including UI purchase of 37.57 MU.

PED Mizoram has reported vide table 2.8 of Tariff petition for FY 2012-13 that 348.25 MU of power was purchased from sources outside the state (CGS) during FY 2010-11.

Summing up the gross procurement of Power from the sources out side the state, and UI purchase based on actuals as detailed below:

(in MU)				
Sr. No.	Stations	Projected by PED	Approved by the Commission	Considered in Review based on actuals
	NEEPCO			
1	Koppili I	41.14	41.14	32.06
2	Koppili II	4.96	4.96	5.02
3	Khandong	7.43	7.43	6.20
4	Ranganadi	89.69	89.69	79.93
5	Doyang	11.95	11.95	12.84
	Gas Based			
6	Assam Gas based	93.68	93.68	97.60
7	Agartala Gas Turbine	39.79	39.79	38.69
	NHPC			
8	NHPC Ioktak	25.66	25.66	29.93
9	Baramura – Tripura	41.08	41.08	45.98
	Sub-total	355.38	355.38	348.25
10	UI Purchase	37.57	37.57	19.88
	Grand Total	392.95	392.95	368.13

4.7 Annual Revenue Requirement

4.7.1 Fuel Cost:

PED projected 3.30 MU own generation with a Fuel Cost of Rs. 348 lakhs during the FY 2010-11 for Lengpui Airport and HFO power plant Bairabi. Commission desired that the Generation of the above stations be increased to 6.0 MU in order to meet peak period requirement and to minimize the load shedding, and correspondingly the Fuel Cost has been approved at Rs. 640 lakhs.

PED had achieved generation of 1.71 MU (Net) only from these plants at a Fuel Cost of Rs. 28.73 lakhs during the FY 2010-11, as reported in the ARR Format – 2 of tariff Petition for FY 2012-13.

The Commission accordingly considers Fuel Cost at Rs. 28.73 lakhs for the generation of 1.71 MU during the FY 2010-11.

4.7.2 Power Purchase Cost:

Power purchase cost approved by the Commission was Rs. 8144.00 lakhs for purchase of 392.95 MU. PED submitted the power purchase details vide their letter dated 14.6.2012. It includes an amount of Rs. 55.58 lakhs towards O&M expenses of local generation. The reason for excessive increase in power purchase cost has been identified as revision of tariff with retrospective effect and payment of arrears. The Commission considered the power purchase cost with the O&M expenses as under. It includes Transmission and ULDC charges and arrears.

Power Purchase Cost:

Sr. No.		Projected		Approved		Actuals considered in the review	
		MU	Cost (Rs. in Lakhs)	MU	Cost (Rs. in Lakhs)	MU	Cost (Rs. in Lakhs)
1	Cost of Power purchase as per the Tariff Order FY 2010-11 (Table 5.24)	392.95	8214.36	392.95	8144.00	368.13	10115.66

Accordingly, the Cost of Power purchase of 368.13 MU at Rs. 10115.66 lakhs for FY 2010-11 against Rs. 8144 lakhs approved for Purchase of 392.95 MU.

4.7.3 O & M Expenses

a) Employee Cost

The Commission had approved Rs. 7656 lakhs for the year 2010-11 to meet the employee expenses of PED Mizoram.

PED has reported the employee expenses at Rs. 6168.45 lakhs for FY 2010-11 in its ARR and Tariff petition for the FY 2012-13, which is 19.43% less than the approved expenses. It is observed that the shortfall is because of nonpayment of revised pay.

The Commission considers employee expenses at Rs. 6168.45 lakhs for the FY 2010-11.

b) Repairs & Maintenance

The Commission had approved R&M expenses at Rs. 1011 lakhs as projected by the PED Mizoram for FY 2010-11. PED has now reported the R&M expenses at Rs. 4233 lakhs for the FY 2010-11 in its ARR petition for FY 2012-13. The utility has not furnished the details of expenses, asset wise breakup such as spares,

consumables and service expenses etc., giving the volume of the network to be maintained.

The Commission considers the actual R&M cost is very high.

The PED may submit the details of asset wise expense towards spares, consumables and service expenses with volume of network to be maintained for consideration by the Commission in the True up for FY 2010-11.

The Commission considers the R&M expenses at Rs. 1011 lakhs for the FY 2010-11.

c) Administration & General Expenses

The Commission had approved Rs. 435 lakhs for the FY 2010-11 as projected by the PED Mizoram. PED has reported the Administration and General expenses at Rs. 411.09 lakhs in its ARR and tariff petition for FY 2012-13. The details of the expenses include Rs. 46 lakhs as Grant in Aid which shall not come under this head. On further query, it is stated that this amount is required for capacity building of the Officers of PED.

Hence, the Commission considers Administration and General expenses at Rs. 411.09 lakhs for the FY 2010-11.

4.7.4 Depreciation

The Commission had approved depreciation at Rs. 1679 lakhs for the FY 2010-11 considering the Gross Fixed Assets in use at Rs. 47063 lakhs as on 01.04.2007 and validating as on 01.04.2010. The Commission also held that the value of the assets was arrived by the PED with certain assumptions.

PED Mizoram has claimed depreciation at Rs.1744 lakhs for FY 2010-11 in its ARR petition for FY 2012-13. The Commission directed the PED to prepare and maintain Assets Registers, Historical data of depreciation in the prescribed ARR Format and to submit audited Accounts statements for consideration of the Depreciation in the tariff determination. The PED has not submitted any such financial statements and audited Accounts in support of the claim for Rs. 1744 lakhs.

The Commission considers depreciation of Rs. 1679 lakhs for the FY 2010-11 in the review of performance as approved in the tariff orders for FY 2010-11.

4.7.5 Interest & Finance Charges

The Commission had approved Rs. 1918 lakhs for the FY 2010-11 as projected by the PED, Mizoram.

PED has reported in its ARR and tariff petition for FY 2012-13 the Interest & Finance charges at Rs. 1801 lakhs for FY 2010-11, which is found to be erroneous calculation as shown below: (ARR Format – 15)

Details of Loan schedule for FY 2010-11 (Projected)

Sr. No.	Particulars	Opening Balance	Rate of Interest	Addition during FY 2011-12	Repayment during FY 2011-12	Closing Balance	Amount of Interest
1	2	3	4	5	6	7	8
1	LIC Loans	1,534	8.0%		133	1,401	123
2	REC Loans	6,824	8.5%	1,604	2,316	6,112	1,678
	Total	8,358		1,604	2,449	7,513	1,801

The correct calculation is worked out below:

Details of Loan schedule for FY 2010-11 (Considered)

Sr. No.	Particulars	Opening Balance	Rate of Interest	Addition during FY 2011-12	Repayment during FY 2011-12	Closing Balance	Amount of Interest
1	2	3	4	5	6	7	8
1	LIC Loans	1,534	8.0%		133	1,401	117
2	REC Loans	6,824	8.5%	1,604	2,316	6,112	550
	Total	8,358		1,604	2,449	7,513	667

The Commission considers Interest & Finance charges at Rs. 667 lakhs for the FY 2010-11, as per the loan schedule.

4.7.6 Interest on Working Capital

The Commission had approved Rs. 175 lakhs, as interest on Working capital as per the JERC Regulation 98 (6) (b) as against the PED claim for Rs. 161 lakhs.

PED has claimed Rs. 177.88 lakhs vide Table 2.16 of tariff petition for 2012-13, and Rs. 185.45 lakhs vide ARR Format – 33 of the petition considering the interest at an interest rate of 11.75% in Table 2.16 and interest rate of 12 % in the Format – 33.

The Commission considers the Interest on Working Capital at Rs. 173.65 lakh as per the JERC Regulation 98 (6) (b) and based on the expenses considered in the review process, as stated below:

Interest on Working Capital

(Rs. in Lakhs)

Sr. No.		Approved by Commission	Claimed by PED	Considered by Commission
1	Fuel Cost for one month	53.00	2.39	2.39
2	Power purchase cost 1 month	679.00	610.42	842.97
3	O&M expenses for 1 month	759.00	901.05	632.54
	Total	1491.00	1513.86	1477.90
4	Interest at 11.75%	175.00	185.45	173.65

4.7.7 Provision for Bad Debts

The Commission had not considered any Provision for Bad and Doubtful Debts for the FY 2010-11, since PED has not submitted any data of receivables.

4.7.8 Return on Equity

Commission had not considered any Return on Equity Capital for the FY 2010-11 as the PED is functioning as Government Department.

4.7.9 Non Tariff Income

The Commission had approved Rs. 167 lakhs as Non-tariff Income for the FY 2010-11.

PED has reported the Non tariff Income at Rs. 162 lakhs for the FY 2010-11 vide ARR Format – 20.

The Commission considers Rs. 162 lakhs as Non tariff Income for the FY 2010-11.

4.8 Revenue from approved tariffs

The Commission had approved Revenue from tariff rates at Rs. 6870 lakhs for approved sales of 230.34 MU for the FY 2010-11.

The PED has reported the sales at 237.56 MU, but Revenue receipt is shown as Rs. 5553 lakhs as at ARR format – 27, which is not commensurate with the approved tariff rates, and sales achieved during FY 2010-11. This requires to be investigated by PED to ascertain actual revenue realization.

The table below indicates the revenue from sale of power as per the tariffs

Sr. No.	Particulars	MU	Amount in lakhs
1	Revenue from Sale of Power with existing approved tariffs for FY 2010-11	230.34	6870.00
2	Revenue realised with approved tariffs on the sales achieved for FY 2010-11	237.56	5553.00

The Commission however, considers the sales revenue receipts at Rs. 5553.00 lakhs for the 237.56 MU sales as reported based on the approved tariff rates for the FY 2010-11. The revenue appears to be low.

PED shall investigate for such low realization of revenue with revised tariffs and report to the Commission.

4.8.1 Summary of ARR after review with actuals and approvals

Sr. No.	ARR Elements	ARR Approved	Actuals
1	Fuel Cost	640.00	28.73
2	Power Purchase Cost including UI purchase	8144.00	10115.66
3	Employees Cost	7656.00	6168.45
4	Repairs and Maintenance Exp	1011.00	1011.00
5	Adm. & Gen Exp	435.00	411.09
6	Depreciation	1679.00	1679.00
7	Int. & Fin charges	1918.00	667.00
8	Int. on Working Capital	175.00	173.65
9	Prov. for Bad Debts	--	--
10	Return on Equity	--	--
11	Sub-Total	21658.00	20254.58
12	Less: Non-Tariff Income	167.00	162.00
13	Total Expenditure	21491.00	20092.58
14	Revenue from existing tariff (Excl UI sale)	7601.21	5553.00
15	Revenue Gap	13889.79	14539.58
16	Less: UI Sales Rev	2377.00	0
17	Gap before subsidy	11512.79	14539.58
18	Govt. Subsidy	11500.00	11762.00
19	Net Gap/Surplus (-)	12.79	2777.58
20	Sales (MU)	230.34	237.56
21	UI Sales/purchase (MU)	70.00	
22	Net Surplus (-) / Gap		2777.58

4.8.2 Revenue Gap / Surplus for FY 2010-11

(Rs. in lakhs)

	As Approved	As Achieved
Net ARR	21491	20092.58
Revenue from sale of Power including UI sales	9978.21	5553.00
Gap before subsidy	11512.79	14539.58
Govt Subsidy	11500	11762.00
Net Gap to be addressed	12.79	2777.58

The net gap approved was to be met by improving the efficiency of the PED. The actual gap during the year is Rs. 27.7 crores which can not be filled up by efficiency improvement. The State Govt. is to bear the gap by way of increasing the subsidy from the commitment of Rs. 117.6 crore to Rs. 145.4 crore. Carrying forward to the next ARR will become a heavy burden to the consumers.

5. Proceedings of Public Hearing

5.1 Public Response to the Petition

On admitting the ARR and Tariff Petition for 2012-13, the Commission directed the PED to make available copies of the petition to the general public, post the petition on their website and also publish the same in newspapers in abridged form and invite comments / objections from them.

No written objection was received from any consumer / stake holders during the time period fixed by the Commission.

5.2 Public Hearing

In order to ensure transparency in the process of determination of tariff as envisaged in the Electricity Act, 2003, public hearing was held at Aizawl on 03/07/2012 as scheduled.

During the public hearing, the participants from the general public, who did not submit written objections earlier, were also given an opportunity to offer their views in respect of the ARR and Tariff proposal of the PED. The list of stakeholders who attended the public hearing is given in Annexure- IV. The officers of the PED, who were present during the public hearing, responded to the issues raised by the objectors.

5.3 Objections / Suggestions

5.3.1 Objector – 1: Mr. Rodinmawia, Dove Alliance, Aizawl

Objections:

- (i) Some energy meters are found to be recording error reading as indicators are not giving light signals regularly.
- (ii) Amount after due date stipulated in the bill body is meaningless because the bill payment is not allowed by the PED after due date. It only creates confusion and it may be removed.

5.3.2 Objector – 2: Pu Lalupa, President, Mizoram Consumers' Union, Aizawl.

Objection:

- (i) The previous Tariff hike was reported to be 10.73%. However, there was steep hike to the tune of more than 20% on implementation. Such precedence should not be repeated.
- (ii) A complaint of energy bills submitted to the Commission was not paid attention. No response is received till date,
- (iii) Single rate pattern practiced in Telecommunication in Telephone bill should be applied in Electricity Tariff also.
- (iv) The PED should be corporatized as demanded by the Electricity Act, 2003 and the PED should take necessary action.
- (v) Govt. of Tripura did not have problem to corporatise its Electricity Department. PED has not been corporatised even after five years since corporatisation of Electricity Department in Tripura. The PED here said that fund constrain is the reason for non-corporatisation which is required to be clarified.

5.3.3 Objector – 3: Mr. Lalramhluna, Vanapa Society, Aizawl.

Objections:

The consumers burden on their high Electricity charges would be relieved if the existing slabs are made into different smaller slabs. It is opined that billing programme software modification will not be problem for the PED if consumers burden are taken into consideration.

5.3.4 Objector – 4: Mr. H. Zonuntluanga, Dove Alliance, Aizawl..

Objections:

- (i) Report of damage of software of computer billing has been frequently received. If such system still prevails, it may result in steep hike of bill which is not welcome.
- (ii) The increase in Tariff hike should be as less as possible

5.3.5 Objector – 5: Mr. Laldingliana Sailo, Secretary, Mizoram Consumers' Union, Aizawl.

Objections:

- (i) The reason of revision of Tariff is to make the PED self-sustainable. This revision of Tariff inter-alia reflects the poor administrative set up especially towards engagement of manpower. Tariff revision is not justified if the existing uncontrolled expenditure and rampant theft cases continues.
- (ii). The Govt. of Mizoram can be able to corporatise the PED if other States Govt. also can do, why not?
- (iii) The ARR is very high and in the meantime theft cases increases resulting in frequent load shedding which may be clarified.
The Consumer Union opines that Tariff should not be revised until and unless the PED is corporatised. The revision is unreasonable.

5.4 Response of PED

5.4.1. On objector – 1

- (i) Energy meters are procured from different manufactures. The frequency of the light signals given by the indicators are also different from one to another based on the manufacturing design. Consumers doubtful of energy meter reading with respect to their consumption may approach concerned official for testing its correctness.
- (ii) The consumers are supposed to make payment of energy bills within due date. Otherwise, they have to make payment of the gross total bill with late payment surcharge @ 2% of the gross total when the next month bill is served.

5.4.2. On objector – 2

- (i) There was a steep hike in energy bills for some consumers at the existing revised tariff from previous one due to methodical change from telescopic to non-telescopic pattern. Such precedence will not take place in this proposed tariff revision.
- (ii) The complaint submitted by the MCU received by the PED from the Commission was sent to the Officers concerned for their examination and

detailed reports from the officers are yet to be received for submission to the Commission.

- (iii) Single rate pattern is not followed in Electricity Tariff all over India. Different categories of Consumers have different types of tariff and this method is proposed to be applied in Mizoram also.
- (iv)&(v) In connection with restructuring and corporatization of the PED, Administrative Staff College of India (ASCI), Hyderabad was appointed as consultant and they had submitted the report to the State Government which has been under examination by the State Government. This matter is to be decided by the State Government as it involves huge amount of expenditure.

5.4.3. On Objector – 3.

Software modification usually takes long time as being observed by the PED. The PED proposes overall average increase of 10.16% only in the proposed tariff to avoid burden on the consumers due to tariff hike.

5.4.4. On Objector – 4

- (i) It is observed that the present computerisation of billing has been found reliable and the PED has been trying its best effort to avoid erroneous energy bills.
- (ii) Tariff hike proposed by the PED is very low in comparison to increase in price of various commodities and materials.

5.4.5. On Objector – 5.

- (i) Tariff revision is not because of poor administration. Efforts are being made by the PED to identify the un-metered consumption and unauthorized services. Checking of pilferage of energy has been done on a regular basis. The existing employee cost can not be reduced immediately at the Department level so as not to revise tariff.
- (ii) The issue of corporatization of the PED is to be decided by the State Government and not by the PED.

- (iii) The cost of purchase of power from outside the state has been revised by the CERC from time to time resulting in high increase of payable bill amount. It is uncontrollable item. Salaries of employees also go on increasing. These factors are attributing high increase in the ARR. It is observed that the existing frequent load shedding are mainly due to non-availability of adequate generation from various sources to cater the demands and outages of lines through difficult hilly terrains.
- (iv) In line with the Electricity Act, 2003, the PED is bound to abide by the various Regulations made by the JERC for Manipur & Mizoram. As per the JERC for M&M (Terms and Conditions for Determination of Tariff) Regulations, 2010, the PED is to file with the Commission Tariff Petitions every year. The revision of tariff has no linkage with whether or not the PED is corporatized. The annual revision is rather necessary to meet the ARR to avoid tariff shock on the consumers. Tariff shock can be avoided this time also due to the State government commitment to subsidize the tariff. The Commission, therefore, may kindly revised the existing tariff as proposed by the PED.

5.5 Commission's observations

The Commission has taken careful note of the objections, comments and suggestions made by the stakeholders / members, general public and response from PED and has given due importance to the same while doing the analysis and finalizing different components of ARR and tariff proposal. Keeping in view the remarks / suggestions made by the objectors and also to meet some of the requirements of Electricity Act, 2003, National Electricity Policy and National Tariff Policy, the Commission has also given certain directives to the Department as an integral part of this order.

6. Analysis of Annual Revenue Requirement for FY 2012-13

6.1 Energy Sales

Proper estimation of category wise energy sales is essential to determine the quantum of power purchase and the likely assessment of revenue. This section examines in detail the customer category wise sales projected by the Power & Electricity Department (PED) in their petition for assessment of ARR.

6.2 Consumer Categories

PED serves about Rs. 2.00 lakhs consumers in their licensed area and the consumers are categorized as under.

1. (a) Kutir Jyothi
(b) Domestic LT
(c) Domestic HT
2. (a) Commercial LT
(b) Commercial HT
3. Public Lighting
4. (a) Irrigation & Agricultural LT
(b) Irrigation & Agricultural HT
5. (a) Public Water Works LT
(b) Public Water Works HT
6. (a) Industrial LT
(b) Industrial HT
7. Bulk Supply HT

PED serves the consumers at different voltages at which the consumers avail supply. In all categories there are LT consumers as well as HT consumers except in the categories of Kutir Jyoti and Public Lighting. In all categories, metered and un-metered services are existing. The Commission has considered to retain the same categories as are existing.

6.3 Additional information and Data

The ARR and Tariff Petition for the year 2012-13 filed by PED was incomplete, as many of the specified formats required under JERC (Terms and Conditions for Determination of Tariff) Regulations, 2010 were not submitted. PED have submitted some additional data / information / clarifications etc through the following references.

1. PED letter No. T 23011/02 – E-in-C(P) Com / 10 dt. 30.04.2012
2. PED letter No. T 23011/02 – E-in-C(P) Com / 11 dt.30.04.2012
3. PED letter No. T 23011/02 – E-in-C(P) Com / 12 dt. 30.04.2012
4. PED letter No. T-23011/02/10-E-in-C (P)/Com/19 dt. 20.05.2012
5. PED letter No. T-23011/02/10-E-in-C (P)/Com/18 dt. 22.05.2012
6. PED letter No. T-23011/02/10-E-in-C (P)/Com/21 dt. 24.05.2012
7. PED letter No. T-23011/02/10-E-in-C (P)/Com/22 dt. 25.05.2012
8. Under Secretary, P&E Department, Govt. of Mizoram, letter No. B. 19018/9/ 2010-P&E dt. 08.06.2012
9. PED letter No. T-23011/02/10-E-in-C (P)/Com/25 dt. 14.06.2012
10. PED letter No. T-11011/01/11-EC (P)/Com/27 dt. 02.07.2012
11. PED letter No. T-23011/02/11-EC(P)/Com/31 dtl 19.7.2012

Additional information and revised / corrected data submitted by the PED in the above references are taken into consideration while analyzing the ARR and Tariff Petition. The information gaps in many elements of ARR still remain unanswered. ARR submitted by the PED, has been considered by the Commission with specific directives on the data gaps.

6.4 Growth of Consumers and Connected Load

PED has projected the category wise growth of consumers, their connected load for the years 2010-11 (actuals), 2011-12 (estimated) and 2012-13 (projected) as given in the table below:

PED revised the data vide letter No. 22 dated 25.05.2012 for the FY 2011-12 & FY 2012-13

Table - 6.1: Category wise consumers and connected load

Sl. No.	Category	Previous Year FY 2010-11 (Actuals)		Current Year FY 2011-12 (Estimated)		Ensuing Year FY 2012-13 (Projected)	
		No of Consumers	Connected Load (KW)	No of Consumers	Connected Load (KW)	No of Consumers	Connected Load (KW)
1	2	3	4	5	6	7	8
1 (a)	Kutir Jyothi	13604	1180.18	14047	1505.24	17500	1806.29
(b)	Domestic (LT)	159188	165747	157301	191290.52	175000	210419.57
(c)	Domestic (HT)			6	1040	10	1140
2 (a)	Commercial (LT)	5107	18051	4910	17639.927	6000	19403.92
(b)	Commercial (HT)	-	-	40	546.80	48	601.48
3	Public Lighting	4	957	763	1544.805	897	1699.29
4 (a)	Irrigation & Agriculture (LT)	16	117	15	18.18	25	20
(b)	Irrigation & Agriculture (HT)			1	85	2	93.50
5 (a)	Public Water Works (LT)	34	17160	10	518.25	11	570.08
(b)	Public Water Works (HT)			28	29102.62	30	32012.88
6 (a)	Industrial (LT)	593	8357	599	5203.18	675	5723.50
(b)	Industrial (HT)	27	0	11	2199.20	15	2419.12
7	Bulk Supply	217	26538	213	25678.88	250	*28246.77
	Total	178790	238108	177944	276372.602	200463	304160.39

(Format – 1 of Tariff Petition)

Commission's Analysis

As can be seen from the table above there is substantial increase in respect of Kutir Jyoti and public lighting consumers. This might be due to extensive electrification of villages and households under RGGVY programme. The number of consumers for domestic, commercial and bulk in the year 2011-12 is shown lesser than that of 2010-11. No reason for this is given.

6.5 Projected Energy Sales for FY 2012-13

PED has furnished category wise energy sales for the years FY 2008-09 to FY 2010-11 (Actuals), FY 2011-12 (Estimated) and FY 2012-13 (Projected) as given in the table below:

Table-6.2: Consumer category-wise energy sales

						(MU)
Sl. No.	Sales	FY 2008-09 (Actual)	FY 2009-10 (Actual)	FY 2010-11 (Actual)	FY 2011-12 (Provisional)	FY 2012-13 (Projected)
1.	KJP (Domestic)			6.50	7.00	8.00
2.	Domestic (HT & LT)	111.34	129.54	167.90	202.28	222.21
3.	Commercial (HT & LT)	9.94	13.65	14.65	16.41	18.05
4.	Public lighting	5.84	4.95	7.04	8.45	9.30
5.	Irrigation & Agri (HT & LT)	0.00	0.001	0.12	1.00	1.50
6.	PWW (HT & LT)	25.26	28.14	27.29	30.56	33.62
7.	Industrial (LT)	1.62	2.40	1.57	1.89	3.00
8.	Industrial (HT)	0.00	0.00	0.31	0.37	3.00
9.	Bulk supply (HT)	11.38	12.02	12.18	14.62	13.17
10.	TOTAL	165.38	190.70	237.56	282.58	311.85

(Table 2.1 of the Tariff Petition)

PED has revised the sales data for the FY 2011-12 & FY 2012-13 vide their letter No. 22 dt 25.05.2012 as per the table 6.3 below:

Table 6.3 : Revised sales

(MU)			
S. N.	Sales	FY 2011-12 (Provisional)	FY 2012-13 (Projected)
1	2	3	4
1	Kutir Jyoty	3.394	5.00
	Domestic (LT)	167.287	195.00
	Domestic (HT)	0.2350	0.50
2	Commercial (LT)	17.975	21.00
	Commercial (HT)	0.913	1.50
3	Public Lighting	6.044	7.00
4	Irrigation & Agriculture (LT)	0.004	1.00
	Irrigation & Agriculture (HT)	0.091	0.25
5	Public Water Works (LT)	0.231	0.50
	Public Water Works (HT)	36.052	42.00
6	Industrial (LT)	0.554	1.00
	Industrial (HT)	0.329	0.50
7	Bulk Supply	17.312	20.00
	Total	250.42	295.25

Commission's Analysis of Energy Sales

The PED has submitted additional and revised data of the connected load, energy sales & no. of consumers in the following references.

1. T.23011/02/10-E-in-C(P)/Com/19 dt 20.05.2012 Annexure-D in which category wise connected load for FY 2011-12 (Actual) FY 2012-13 (Estimate) with slab wise break up.
2. T-23011/02/10-E-in C(P)/Com/22 dt 25.05.2012 where in energy sales in the ARR Format-1 for the FY 2011-12 (Provisional) & FY 2012-13 (Estimate) with no. of consumers, connected load and sales are furnished. The revised data received in the two references is contradicting with the original data furnished in the ARR & Tariff petition for FY 2012-13 vide Table 2.1 of Tariff petition.

Commission in the circumstances considers the data furnished at the latest for analysis of ARR & Tariff petition for FY 2012-13.

Considering the revised data submitted vide letter no. 22 dt 25.05.2012 the Category wise sales projected by the PED are discussed below:

1. Domestic

(a) Kutir Jyoti

PED has stated that Kutir Jyothi sales, under domestic category will be considerably high during the FY 2011-12 and FY 2012-13 due to execution of massive rural electrification programme under RGGVY project. The growth of consumers projected at 3453 Nos. for FY 2012-13 over FY 2011-12 is found to be 25%. The comparative sales under 'Kutir Jyothi' during FY 2010-11, FY 2011-12 and FY 2012-13 (Projections) analysed below:

Table-6.4:

Sl. No	Category	FY 2010-11 (Actual)		FY 2011-12 (Provisional)		FY 2012-13 (Projected)	
		No of Consumers	Sales (MU)	No of Consumers	Sales (MU)	No of Consumers	Sales (MU)
1	Kutir Jyothi	13604	6.50	14047	3.394	17500	5.00
2	Avg monthly Consumption	40 Units		20 Units		24 Units	

The provisional and projected sales of 2011-12 and 2012-13 are lesser than the actual sale of 2010-11. On the other side there is a substantial increase in number of consumers. The Commission considers a normal annual growth of 10 % on the actual on 2010-11 reasonable.

PED shall ensure correct estimate of energy consumption for the current year 2011-12 and the consumers with higher consumption than permissible limit per month under Kutir Jyoti shall be billed under Domestic – 2 category so that substantial additional revenue could be realized.

The Commission approves the sales of Kutir Jyoti at 8.0 MU for the FY 2012-13 as against 5 MU projected by PED.

(b) Domestic (LT)

In the additional information submitted, vide letter No. 22 dt 25.05.2012 PED has stated that the energy sales projected for FY 2012-13 estimated at 195 MU against actual sales of 167.287 MU for FY 2011-12. The provisional sale of 2011-12 is less than the actual sale of 2010-11 which is considered not justified. The Commission considers a nominal growth rate of 15% with the base year 2010-11 (actual). The provisional figure of 167.522 MU for the year 2011-12 may be due to

under billing and higher loss. PED had not segregated this category into LT Domestic and HT Domestic in the Previous Year FY 2010-11. These are made available for FY 2011-12 and FY 2012-13 in the additional information submitted. The increase in the number of consumers projected for FY 2012-13 over FY 2011-12 is 17699 Nos. and the actual specific consumption during FY 2010-11 is 88 units where as the same is estimated for FY 2012-13 at 105 units. The projections for FY 2012-13 are found to be minimal.

The Commission approves the sales projected at 222 MU for domestic (LT) for the FY 2012-13 as against the revised figure of 195 MU projected by PED.

(b) Domestic (HT)

The sales of this category are projected at 0.50 MU for FY 2012-13 for 10 consumers under this category. There is no historical trend to substantiate the projection, and the sales are meagre.

The Commission considers and approves 0.50 MU for Domestic (HT) consumers for the FY 2012-13 as projected by PED, as these consumers are classified based on the connected load exceeding 50 KW and supply extended at 11000 volts. PED shall ensure installation of high accuracy static meters to this category of consumers, so that the consumption can be measured and billed accurately.

The Commission approves total energy sales for domestic category at 222.5 MU (LT 222 MU & HT 0.50 MU) for FY 2012-13 as against 195.5 MU projected by PED.

2. Commercial

(a) Commercial (LT)

This category was not segregated into LT and HT in the FY 2010-11. These are made available for FY 2011-12 and FY 2012-13 in the additional information. In the revised information submitted, vide letter No. 22 dt 25.05.2012 PED has projected the LT sales at 21.00 MU. The sales projected for commercial (LT) for FY 2012-13 are 21.00 MU against actuals of 17.975 MU for FY 2011-12. Though 1090 Nos. additional consumers are projected with 1764 KW additional load during 2012-13, additional sales estimated are only 3.03 MU and the growth accounts for 17%. The specific consumption for this category during FY 2011-12 is arrived at 305 units. Considering the Specific Consumption of FY 2011-12, the projected sales for FY 2012-13 will be 21.96 MU. Hence, the sales for this category are considered at 22.00 MU.

The Commission approves sales at 22.00 MU for Commercial (LT) category for FY 2012-13.

(b) Commercial (HT)

The sales for commercial (HT) category are projected at 1.50 MU for FY 2012-13. There is no historical trend to estimate the consumption for this category. Considering 10 hrs / day at LF of 0.5 (25 days / month), the estimated consumption will be about 1.02 MU. The consumers are having 12.53 KW connected load on an average. The consumption may be considerably less than that projected at 1.50 MU for the FY 2012-13.

The Commission approves sales at 1.50 MU for commercial (HT) category for the FY 2012-13, as projected by PED.

Total energy sales approved for commercial category is 23.50 MU (LT 22.00 MU + HT 1.50 MU) for FY 2012-13.

3. Public Lighting

PED has projected sales at 7.00 MU to this category for FY 2012-13. The sales growth is projected at 15.82% over the current year estimates of 6.044 MU. The increase in number of consumers and sales might be due to electrification of number of villages.

The no. of consumers in the FY 2011-12 are 763 with a connected load of 1544.805 KW while the number of consumers projected for the FY 2012-13 are 897 with a connected load of 1699.29 kW, which accounts to be 10% growth in the connected load and 17.56% growth in the sales is found to be steady.

Commission, considers the sales for the FY 2012-13 at 7.00 MU for public lighting category as this is considered reasonable based on current year consumption.

4. Irrigation & Agriculture (LT & HT)

Sales projected for this category are at 1.00 MU (LT) 0.25 MU (HT). The estimated Projection for FY 2012-13 are found to be reasonable with addition of 11 Nos. Consumers for FY 2012-13 as against 0.095 MU for FY 2011-12 both LT & HT put together.

The Commission approves the sales at 1.00 MU (LT) and 0.25 MU (HT) to irrigation & agriculture for the FY 2012-13, as projected by PED.

5. Public Water Works

(a) Public water works (LT)

The sales projected to this category are at 0.50 MU for the FY 2012-13. PED has stated in their letter No. 22 dt 25.05.2012 that the projections are at about 15% increase over the actuals of FY 2011-12 at 0.231 MU. The sales projected are considered reasonable.

(b) Public water works (HT)

PED Mizoram has projected sales to this category at 42 MU for FY 2012-13. The actuals for the FY 2011-12 are stated to be 36.052 MU. The sales projected account for 16.50% increase and considered reasonable.

The Commission considers and approves the sales for PWW (LT) at 0.50 MU and PWW (HT) 42 MU for FY 2012-13 as projected by PED.

6. Industrial

(a) Industrial (LT)

PED has projected sales to this category at 1.00 MU for 2012-13. The actuals for FY 2011-12 is stated to be 0.554 MU. However, there is a decreasing trend in the connected load. The projection is considered to be reasonable.

Accordingly, the Commission approves the sales at 1.00 MU for FY 2012-13 as projected by PED.

(b) Industrial (HT)

The sales to this category are projected at 0.50 MU for the FY 2012-13, against the current year (2011-12) estimate at 0.32 MU. The projected sales during FY 2012-13 are found to be reasonable.

The Commission approves sales at 0.50 MU to this category for FY 2012-13 as projected by PED.

7. Bulk Supply

PED Mizoram has projected sales at 20 MU for the FY 2012-13, against the actuals of 17.312 MU for the current year FY 2011-12. This accounts for a growth of 15.53%.

There is a data inconsistency or mismatch in the connected load furnished in the ARR Format – 1 in the previous year actuals, current year estimates and ensuing year projections as stated in the Format – 1 (ARR). PED has submitted additional data for No. of consumers, Connected load, category wise, slab wise sales for FY 2012-13 on 30.04.2012 and revised data vide Lr. No. 22 dt 25.05.2012, wherein the connected load furnished as 28246.77 kW is found to be acceptable for the 250 Nos. Consumers.

As the sales furnished in the revised data shows steady growth, the Commission approves sales for the FY 2012-13 at 20.00 MU as projected by PED.

6.6 Category Wise Energy Sales Projected and Approved

The category wise Energy Sales for the year 2012-13 as discussed above and approved by the commission and projected sales by PED are given in table below:

Table - 6.5: Category wise Energy Sales projected and approved

(MU)

Sl. No.	Category	Projected for FY2012-13	Approved for FY 2012-13
1	2	3	4
1 (a)	Kutir Jyothi MU	5.00	8.00
(b)	Domestic (LT)	195.00	222.00
(c)	Domestic (HT)	0.50	0.50
2 (a)	Commercial (LT)	21.00	22.00
(b)	Commercial (HT)	1.50	1.50
3	Public Lighting	7.00	7.00
4 (a)	Irrigation & Agriculture (LT)	1.00	1.00
(b)	Irrigation & Agriculture (HT)	0.25	0.25
5 (a)	Public Water Works (LT)	0.50	0.50
(b)	Public Water Works (HT)	42.00	42.00
6 (a)	Industrial (LT)	1.00	1.00
(b)	Industrial (HT)	0.50	0.50
7	Bulk Supply	20.00	20.00
	Total	295.25	326.25

6.7 T&D losses

PED has projected the distribution losses at 27.6% for the year 2012-13. Since transmission is an integral part of distribution, the transmission and distribution losses are considered together as distribution losses. PED has submitted that since population in the State is scattered and spread out, the network has long length of LT lines and hence the distribution losses are high. It is submitted that PED has taken several measures to reduce the losses and projected the losses at 27.6% for FY 2012-13.

The Commission in the Tariff Order for FY 2010-11, had given distribution loss trajectory as below:

Table-6.6: Distribution loss trajectory

Year	Loss level (%)
2010-11	35.00 (Approved)
2011-12	33.00
2012-13	31.00
2013-14	29.00

Commission's Analysis

T&D losses projected by PED for FY 2012-13 has been examined by the Commission. PED has not calculated the losses properly. PED has subsequently submitted the revised data of sales for the FY 2011-12 and FY 2012-13(Projections). The distribution losses projected by PED at 27.6% are found to be not realistic assessment. The Commission has ascertained the T&D loss for the year 2011-12 as 35.53 % from the revised information of power purchase furnished by PED on 14th June, 2012. From the review of 2010-11 it is found that the actual loss in the year was 39.02%. **Based on the trend of loss reduction from 2010-11 to 2011-12 the Commission has considered to fix the T&D loss of the year 2012-13 at 31% and for the year 2013-14 at 29 %.**

6.8 Energy requirement

PED has projected the energy requirement for FY 2012-13 as given in table below:

Table - 6.7: Energy requirement projected for FY 2012-13

Particulars	Energy (MU)
Energy sales	311.85
Distribution loss	101.00
Distribution loss (%)	27.60 (%)
Energy requirement	412.85

The Commission considering the T&D losses of 31% has computed energy requirement based on energy sales approved for FY 2012-13 as given in table below:

Table - 6.8: Energy requirement approved by the Commission for FY 2012-13

Sl. No.	Particulars	Energy (MU) for FY 2012-13
1	Energy sales	326.25
2	Distribution loss	146.57
	Distribution loss (%)	31 %
3	Energy requirement at state periphery (1+2)	472.82

The Commission approves the energy requirement at State's periphery (input to State transmission system) at 472.82 MU for FY 2012-13 as against 412.85 MU projected by PED.

6.9 Sources of power

6.9.1 Own generation

PED owns eleven mini hydel stations with an installed capacity of 29.35 MW, one diesel station of 0.5 MW and a thermal station of 22.92 MW run on HFO. Thus the total installed capacity is 52.77 MW. The 22.92 MW HFO station is kept as standby in view of high cost of generation and run only during emergency. The generation from hydel is 43 MU. The Serlui 'B' station generated 15.30 MU during FY 2010-11, but was not run during FY 2011-12 due to hydro mechanical problem and a generation of 23.00 MU is considered for FY 2012-13. Thus total generation available from own stations is 43.00 MU.

The generating stations, their capacity and generation during FY 2010-11, 2011-12 and 2012-13 projected by PED are given in table below:

Table - 6.9: Gross generation from own generating stations

(MU)					
Sl.	Station	Installed capacity	2010-11	2011-12	2012-13
I	Hydel				
1	Serlui 'A'	1.00	0.63	0.61	0.70
2	Tuirivang	0.30	Damage	Damage	0.00
3	Khawiva	1.05	1.30	1.60	1.50
4	Tuipui	0.50	1.52	1.20	1.25
5	Maicham-I	2.00	4.65	3.00	3.00
6	Teirei	3.00	1.93	2.08	2.30
7	Tuipanglui	3.00	2.08	1.50	2.00
8	Kau-Tlabung	3.00	3.74	6.10	5.75
9	Lamsial	0.50	0.15	0.24	0.50
10	Maicham-II	3.00	0.62	-2.00	3.00
11	Serlui 'B'	12.00	15.30	0.00	23.00
II	Diesel				
12	Lengpui	0.50	0.01	0.02	0.02
III	HFO				
13	Bairabi	22.92	1.72	0.00	0.00
	Total	52.77	33.65	18.35	43.02

(Table 1.1 of petition)

Considering the auxiliary consumption at 0.5%, the net generation from the hydel stations would be 40.85 MU and total including diesel station would be 40.87 MU.

The Commission approves generation of 40.87 MU (40.85 + 0.02) (Net) from PED's own generation projected at 43.00 MU for FY 2012-13.

6.9.2 Purchase from outside the state

PED has allocation of power from various Central Generating Stations in North Eastern Region - (NEEPCO), (NHPC) and Eastern Region - (NTPC) and from Tripura gas based station as given below:

Table - 6.10: Allocation of power from Central Sector and other Generating Stations

Sl. No.	Name of the station	Share from firm allocation (%)	MW
A. Central Sector			
1	Koppili I HEP (200MW)	4.618	9.24
2	Koppili II HEP (25MW)	6.278	1.57
3	Khandong HEP (50MW)	3.940	1.97
4	Ranganadi HEP (405MW)	5.710	23.13
5	Doyang HEP (75MW)	5.240	3.93
6	Assam gas based projects (291MW)	5.428	15.80
7	Agartala gas based project (84MW)	6.190	5.20
8	Loktak HEP(105MW)	5.068	5.32
9	Farakka STPP (1600 MW)	0.214	3.42
10	Kahalgaoon STPP I (840 MW)	0.210	1.76
11	Talcher STPP I (1000 MW)	0.214	2.14
	Total (CS) (4675 MW)	1.560	73.48
B. State Sector			
12	Baramura GTP IV & V (42 MW)	25.000	10.50
C. Joint Sector			
13	Palatana		22.00
	G. Total (4702 MW)	26.560	105.98

The Commission has approved purchase of power from Central Sector and other Generation Station at 106 MW

6.9.3 Energy drawl projected by PED from Central Generating Stations and Other sources

PED has projected drawal of about 483.00 MU from the Central Generating Stations and other sources during FY 2012-13 as given in table below:

Table - 6.11: Energy purchase projected for FY 2012-13 from Central Generating Stations and other sources

Sl. No.	Station	Energy Drawl (In MU)			
		FY 2009-10 (Actual)	FY 2010-11 (Actual)	FY 2011-12 (Provisional)	FY 2012-13 (Projected)
	NEEPCO	242.84	272.34	272.34	275.05
A	Hydro				
1	Kopill - I HEP (200 MW)	32.21	32.06	32.06	32.06
2	Kopili - II HEP (200 MW)	4.91	5.02	5.02	5.50
3	Khandoni – II HEP (50MW)	5.90	6.20	-	6.20
4	Ranga nadi H EP (405MW)	58.19	79.93	79.93	80.00
5	Doyang HEP (75MW)	9.03	12.84	12.84	15.00
	Total 'A'	110.24	136.05	136.05	138.76
B	Gas Based				
6	Assam Gas based Power	92.81	97.60	97.60	97.60
7	Agartala Gas Turbine Power	39.79	38.69	38.69	38.69
	Total 'B'	132.6	136.29	136.29	136.29
C					
8	NHPC Loktak HEP (105 MW)	25.66	29.93	30.00	30.00
	Total 'C'	25.66	29.93	30.00	30.00
D	Eastern Power				
9	Fakakka STPP	0	-	19.20	19.20
10	Kahalgaon STPP-I	0	-	12.00	12.00
11	Talcher STPP-I	0	-	16.80	16.80
	Total 'D'	0	0	48.00	48.00
E	Inter State Projects				
12	Baramura (2x21MW), 25%	41.08	45.98	79.00	90.00
	Total 'E'	41.08	45.98	79.00	90.00
	Total (A+B+C+D+E)	309.58	348.25	429.34	443.05

(Table 2.8 of petition)

In the additional information submitted on 30/04/2012, PED submitted that 40 MU from Palatana plant will be available during FY 2012-13. With this the total availability of energy for purchase by PED will be 483.05 MU (443.05+40).

Commission's Analysis

The Commission has examined the allocation and generation available for PED from Central Generating Stations. The allocation is the same as in FY 2011-12 and a new Generating Station at Palatana scheduled to be commissioned in August 2012 is also considered and it is stated that 40 MU energy will be drawn during FY 2012-13 from this station making the total energy available at 483 MU during 2012-13 against 430 MU during FY 2011-12.

The Commission approves purchase of 483 MU from Central Generating Stations and other sources for FY 2012-13 as given in table below:

Table - 6.12: Power purchase approved by the Commission for FY 2012-13

(MU)

Sl. No.	Station	Energy Drawl Approved for FY 2012-13
	NEEPCO	
A	Hydro	
1	Kopill - I HEP (200 MW)	32.00
2	Kopili - II HEP (200 MW)	5.50
3	Khandoni – II HEP (50MW)	6.20
4	Ranga nadi H EP (405MW)	80.00
5	Doyang HEP (75MW)	15.00
	Total 'A'	138.70
B	Gas Based	
6	Assam Gas based Power	97.60
7	Agartala Gas Turbine Power	38.70
	Total 'B'	136.30
C	NHPC	
8	NHPC Loktak HEP (105 MW)	30.00
	Total 'C'	30.00
D	Eastern Power NTPC	
9	Fakakka STPP	22.00
10	Kahalgaoon STPP-I	12.00
11	Talcher STPP-I	14.00
	Total 'D'	48.00
E	Inter State Projects	
12	Baramura (2x21MW), 25% each	90.00
13	Palatana Sept'12 to Mar'13	40.00
	Total 'E'	130.00
	Total (A+B+C+D+E)	483.00

6.10 Energy balance

PED has projected the energy balance by considering the energy requirement and energy available from various sources as given in table below. PED has submitted revised sales for the FY 2011-12 and FY 2012-13 vide their letter No. 22 dt 25.05.2012.

Table - 6.13: Energy balance projected by PED

(MU)

Sl. No.	Particulars	Previous year (FY 2010-11)	Current year (FY 2011-12)	Ensuing year (FY 2012-13)
	ENERGY REQUIREMENT			
1	Energy sales			
2	Total energy sales	237.56	282.58	311.85
3	Overall losses %	33.39	27.16	27.60
4	Overall losses	119.06	110.00	101.00
5	Total energy requirement	356.62	392.58	412.85
	ENERGY AVAILABILITY			
	Net own generation (A)			
1.1	- Hydel	31.93	18.33	43.00
1.2	- Diesel based	0.01	0.02	0.02
1.3	- Furnace oil based	1.72	-	-
2	Power purchase (B)			
	-From NEEPCO			
2.1	Hydel	136.05	136.05	138.76
2.2	Gas based	136.29	136.29	136.29
2.3	- From NHPC – Loktak	29.93	30.00	30.00
2.4	EE Region power	-	48.00	48.00
2.5	From Tripura	45.98	79.00	90.00
2.6	Palatana			40.00
3	Trading / UI (C)	(25.29)	(55.11)	(73.22)
4	Energy availability (A+B+C)	356.62	392.58	412.85

(Table 2.4 of petition)

Commission's Analysis

The Commission has examined the energy balance projected by PED. PED has not considered the interstate transmission loss (pool loss) while working out the total energy available for distribution in the state. The PED has not explained specifically the measures taken up to ensure reduction in losses assessed as 27.6% in the projections for FY 2012-13. The Commission has also reviewed energy drawl and the sales achieved during FY 2010-11 and FY 2011-12. Considering the energy requirement and energy available from own generation (net), energy entitlement from central generating stations and other sources as also considering the revised sales data submitted vide PED letter No. 22 dt 25.05.2012, the energy balance computed by the Commission is given in table below:

Table - 6.14: Energy balance approved for FY 2012-13

Sl. No.	Particulars	Energy (MU) for FY 2012-13
1	Energy sales	326.25
2	Distribution loss	146.57
	Distribution loss (%)	31 %
3	Energy requirement at state periphery (input to state transmission system)	472.82
4	Energy available	
(a)	Own generation (net)	
	Hydro Net	40.85
	Diesel Net	0.02
	Sub-total (a)	40.87
(b)	Power purchase	
	(i) NEEPCO (Hydel + Gas)	270.00
	(ii) NHPC (Loktak)	30.00
	(iii) Eastern Region (NTPC)	48.00
	(iv) Tripura	90.00
	(v) Palatana	40.00
	Sub-total (b)	483.00
	Total	523.87
(c)	Less: Pool loss at 3.5% (on (b))	16.90
5	Total energy available (a+b-c)	506.97
6	Trading / UI	- 34.15
7	Net energy available (5 + 6)	472.82

The Commission approves the energy balance as above, which provides surplus energy of 34.15 MU.

6.11 Gross Fixed Assets

PED has not maintained any registers / records of gross fixed assets but has projected the fixed assets for FY 2010-11 and FY 2011-12 and not projected assets to be added during FY 2012-13. But it has projected certain asset capitalisation for FY 2012-13 in the petition.

The GFA projected by PED for FY 2010-11 and 2011-12 are given in table below:

Table - 6.15: Gross Fixed Assets projected by PED

		(Rs. lakh)	
Sl. No.	Description	2010-11	2011-12
1	Gross Fixed Assets as per JERC (M&M)	31768	33025
2	Less: Consumer contribution	0	0
3	Balance GFA	0	33025
4	Less: Grants		
5	Balance GFA		33025
6	Add 10% addition	1257	21
7	Closing GFA	33025	33046
8	Average GFA	33025	33036
9	Rate of Depreciation	5.28%	5.28%
10	Depreciation	1744	1744

(Table 2.7 of petition)

It is stated that the figures given in the ARR & Tariff petition are the unaudited figures and, the Department could not get audited statement on various accounts due to procedural delay.

PED has, later on, furnished revised fixed assets and depreciation data from 01.04.2007 vide their letter No. 19 dated 20.05.2012 as detailed below:

Table - 6.16: Revised fixed assets and depreciation

Sl. No.	Item	Assets based on 01.04.2007	Asset Value on Col. 3 after 4 yrs (as on 01.04.2011)	Asset addition during 2007-08 to 2010-11 (4 years)	Asset addition during FY 2011-12	Value of Assets as on 01.04.2012 (i.e. 4+5+6)	Rate of Depreciation in %	Depreciation Charges on Col 5	Accumulated Depreciation
1	2	3	4	5	6	7	8	9	10
1	Thermal Generation								
2	Hydro Generation	10227	8067	1673.2	0	9740	5.28	514	514
3	Transmission	7617	6008	6307.27	2417.55	14733	5.28	778	778
4	Distribution	22245	17547	1857.86	82	19487	5.28	1029	1029
5	Street light	478	377	95.6	23.9	497	5.28	26	26
6	Building	2104	1660	382.44	210.72	2253	5.28	119	119
	Total	42671	33659	10316	2734	46709		2466	2466

PED subsequently with reference to their letter dated 2/7/2012 has submitted revised GFA data superseding the data furnished on 20/5/2012 as per table below:

Table - 6.17 : Value of Assets and Depreciation Charges

(Figures in lakhs)

S. N.	Item	GFA for Depreciation based on 01.04.2007	Asset addition during 2007 – 08 (Actual)	Asset after depreciation @ 5.28% as on 01.04.2008	Asset addition during 2008 – 09 (Actual)	Asset after depreciation @ 5.28% as on 01.04.2009	Asset addition during 2009 – 10 (Actual)	Asset after depreciation @ 5.28% as on 01.04.2010
1	2	3	4	5	6	7	8	9
1	Thermal Generation		Break-up not available		Break-up not available			
2	Hydro Generation	10227					259.40	
3	Transmission	7617					3449.59	
4	Distribution	22245					809.27	
5	Street light	478					50.48	
6	Building	2104					0.00	
	Total	42671	8802	48755	5810	51684	4568.74	53283

S. N.	Item	Asset addition during 2010-11 (Actual)	Asset after depreciation @ 5.28% as on 01.04.2011	Asset addition during 2011-12 (Actual)	Asset after depreciation @ 5.28% as on 01.04.2012	Asset addition during 2012-13 (Actual)	Asset after depreciation @ 5.28% as on 01.04.2013	Remarks
1	2	10	11	12	13	14	15	16
1	Thermal Generation		Break-up not available		Break-up not available			
2	Hydro Generation	1185.9		0		19133.00		
3	Transmission	910.03		2417.55		457.06		
4	Distribution	756.1		82.00		2449.23		
5	Street light	26.4		27.75		29.13		
6	Building	111.6		210.72				
	Total	2990	53302	2738.02	53081	22068.42	71181	

Commission's Analysis

The Commission had discussed the issue of GFA in detail in the Tariff order for FY 2010-11 and arrived at the closing GFA for FY 2010-11 as Rs. 31811 lakhs (Table 5.33 of Tariff order for FY 2010-11) provisionally in the absence of reliable data from PED.

It is observed that PED has taken the gross fixed assets as on 01.04.2007 and then added yearly addition there on to arrive at the Gross Fixed assets as on 01.04.2012.

The entire capital expenditure has been funded by GOI / Government of Mizoram through budgetary support, mostly by providing grants and subsidies. The Department has not prepared any proforma accounts. The Power and Electricity Department has not prepared and maintained the Statements of accounts viz profit & loss account, balance sheet etc. The Department has not maintained any asset and depreciation registers.

Regulation 96 (2) of JERC for Manipur and Mizoram (Terms and Conditions for Determination of Tariff) Regulations, 2010 reads as follows:

“Investments made prior to and upto the year of the notification of these Regulations shall be considered on the basis of audited accounts or approvals already granted by the Commission”.

Though audited asset register, the depreciation registers, and the audited annual accounts are not maintained, the gross block of assets are projected by PED in the ARR and Tariff Petition and in subsequent submissions based on the data available with them for years.

The Commission considered the GFA approved as on 1/4/2007 vide table 5.33 of Tariff Order for FY 2010-11 at Rs. 47063 lakhs as against Rs. 42671 lakhs proposed by PED. The asset value furnished by the PED is not after depreciation. The Commission considers full cost of the gross asset value (not depreciated value) for purposes of depreciation. The revised asset additions from the years 2009-10 to 2012-13 submitted vide letter dated 2/7/2012 has been considered for calculation the GFA for 2012-13. The position of assets consumer contribution and grants from 2007-08 to 2012-13 is detailed in the table below:

Table – 6. 18: Assets consumer contribution and grants from 2007-08 to 2012-13

Particulars	Gross Fixed Assets (GFA)	Consumer Contribution	Grants	Balance Assets
1	2	3	4	5
As on 01.04.2007	47063	347	16792	29924
Addition 2007 – 08	8802		7922	880
As on 01.04.2008	55865	347	24714	30804
Addition 2008-09	5810		5229	581
As on 01.04.2009	61675	347	29943	31385
Addition 2009-10	4569		4112	457
As on 01.04.2010	66244	347	34055	31842
Addition 2010-11	2990		2691	299
As on 01.04.2011	69234	347	36746	32141
Addition 2011-12	2738		2464	274
As on 01.04.2012	71972	347	39210	32415
Addition 2012-13	22068		19861	2207
As on 01.04.2013	94040	347	59071	34622
Note: The grants are considered at 90% of the Capex from FY 2007-08 onwards				

Sector-wise GFA for the FY 2012-13 is approved as given in table below:

Table - 6.19: Sector-wise GFA for the FY 2012-13**(Rs. in Lakhs)**

Sl. No.	Item	Opening GFA 01.04.2012	Asset addition during FY 2012-13	GFA as on 31/3/2013
1	2	3	4	5
1	Generation	15006.16	19133.00	34139.16
2	Transmission	22707.17	457.06	23164.23
3	Distribution	30789.62	2478.36	33267.98
4	Buildings	3469.05	0	3469.05
	Total	71972	22068.42	94040.42

6.12 Capital Expenditure Plan and Capitalization

In the Petition PED has given the capital expenditure incurred during the year 2009-10, 2010-11 and 2011-12 with details of works. It has not provided capital expenditure plan with details of works proposed to be executed during FY 2012-13. It has simply indicated the provisional capital expenditure and asset capitalisation for FY 2012-13 as below:

Table - 6.20: Capital expenditure and asset capitalisation for FY 2012-13

(Rs. lakh)	
Particulars	FY 2012-13
Capital expenditure during the year	13829.32
Capitalisation during the year	12890.77

PED Mizoram in their letter dt 20.05.2012, have submitted additional data/information, where in a revised Capital expenditure and Capitalisation for the FY 2010-11 to 2012-13 are furnished as detailed below:

Table - 6.21: CAPEX and capitalisation projected by PED

(Rs. lakhs)				
Particulars	Cumulative CAPEX till FY 2010-11	FY 2010-11 (Actual)	FY 2011-12 (Provisional)	FY 2012-13 (Projected)
Capital expenditure incurred	59081.26	3941.63	4985.00	13495.27
Asset capitalisation during the financial year	-	2963.27	2710.27	3585.29

Commission's Analysis

PED has projected very high CAPEX for FY 2012-13 which may not realize during the year as seen from CAPEX during earlier years. However, Commission considers capitalisation as Projected by PED in the revised data vide table - 6.21 above. PED may prioritise the expenditure as per State plan fund allocation.

6.13 Fuel cost

PED has projected fuel cost of Rs. 2.80 lakhs for FY 2012-13 for generation of 0.02 MU from the Lengpui diesel generating station of capacity 0.50 MU. PED has stated that this D.G. set is kept at Lengpui Airport on stand by mode for meeting the emergency requirements due to its high cost of generation. PED has not shown any generation for FY 2012-13 from the 22.92 MW Bairabi plant as the same is not in operation due to high cost of generation. PED has estimated the fuel cost at Rs. 2.80 lakhs for generation of 0.02 MU from Lengpui DG set.

The Commission approves the fuel cost of Rs. 2.80 lakhs for FY 2012-13 as projected by PED.

6.14 Power purchase cost

The allocation of power from Central Generating Stations and other sources and the energy estimated to be available from these stations for purchase are discussed in para 6.10.2 & 6.10.3 above.

PED has submitted in the ARR petition only the power purchase cost for FY 2012-13 and that, it is worked out based on the updated power purchase rate that prevailed during the FY 2011-12. On further query the PED has submitted revised data of power purchase for the FY 2010-11, 2011-12 and 2012-13 in Format-7 vide their letter No. T-23011/02/10-E-in-C(P)/Com/25 dt 14.06.2012 as tabulated below:

Table - 6.22: Power Purchase Details for FY 2010-11

Sl. No.	Station	Purchase (MU)	External losses (MU)	Energy Rec (MU)	AFC	Mizoram's share (%)	V/C (per kWh)	FC	VC	Total
	NEEPCO									
A	Hydro									
1	Kopilli – I HEP (200 MW)	32.06	1.12	30.94	5,767.00	4.61	0.28	130.14	89.46	219.60
2	Kopilli – II HEP (25 MW)	5.02	0.18	4.84	1,295.11	6.04	0.86	35.87	43.19	79.06
3	Khandog HEP (50 MW)	6.20	0.22	5.98	1,963.28	3.94	0.41	38.60	25.16	63.76
4	Ranganadi HEP (405 MW)	79.93	2.80	77.13	20,340.81	5.70	0.77	700.86	617.82	1,318.68
5	Doyang HEP (75MW)	12.84	0.45	12.39	6,435.00	5.25	1.48	181.75	189.58	371.33
B	Gas based									
6	Assam gas based Power Project (291 MW)	97.60	3.42	94.19	27,283.63	5.41	1.52	1,322.37	1,459.16	2,781.53
7	Agartala gas Turbine Power Project (84 MW)	38.69	1.35	37.34	7,826.45	5.98	1.90	500.47	733.61	1,234.08
C	Others									
8	Loktak HEP (105 MW)	29.93	1.05	28.95	10,537.29	5.02	0.64	136.86	191.84	328.70
9	NTPC									
	Farakka STPP (1600 MW)	-	-	-	-	0.00	-	-	-	-
	Kahalgaon STPP-I (840 MW)	-	-	-	-	0.00	-	-	-	-
	Talcher STPP – II (1000 MW)	-	-	-	-	0.00	-	-	-	-
10	Tripura – Baramura (2X5.25 MW)	45.96	1.61	44.37	4,176.00	25.00	1.75	533.35	804.61	1,337.96
11	OTPC-Palatana (726 MW)					3.03				
12	1) Trans. Charges (PGCIL)	-	-	-	-	-	-	-	-	915.31
	2) ULDC Charges (PGCIL)	-	-	-	-	-	-	-	-	45.95
	Total	348.24	12.19	336.05	85,624.56	8.87	1.19	3,580.28	4,154.43	8,695.97
13	O&M Expenses of Local generating Stations									55.58
14	Payment made during FY 2010-11 against Supply bills received									774.82
15	Net Trading / UI	19.88		19.88	-	-	3.96	-	-	589.29
	Grand Total	368.12	12.19	355.93	85,624.56	8.87	4.16	3,580.28	4,154.43	10,115.65

Table 6.23 : Power Purchase Details for FY 2011-12

Sl. No.	Station	Purchase (MU)	External losses (MU)	Energy Rec (MU)	AFC	Mizoram's share (%)	V/C (per kWh)	FC	VC	Total
	NEEPCO									
A	Hydro									
1	Kopilli – I HEP (200 MW)	41.53	1.45	40.07	8,129.79	4.61	0.31	141.87	128.73	270.60
2	Kopilli – II HEP (25 MW)	5.51	0.19	5.31	1,424.62	6.04	0.86	49.73	47.36	97.10
3	Khandog HEP (50 MW)	6.98	0.24	6.74	4,477.31	3.94	0.45	63.99	31.41	95.40
4	Ranganadi HEP (405 MW)	55.29	1.94	53.35	31,980.31	5.70	1.11	1,060.38	613.71	1,674.09
5	Doyang HEP (75MW)	11.49	0.40	11.08	6,435.00	5.25	1.48	176.07	169.66	345.73
B	Gas based									
6	Assam Gas Based Power Project (291 MW)	93.72	3.28	90.44	27,283.63	5.41	1.48	1,256.65	1,386.99	2,643.64
7	Agartala gas Turbine Power Project (84 MW)	38.78	1.36	37.42	7,826.45	5.98	1.99	431.82	771.73	1,203.55
C	Others									
8	Loktak HEP (105 MW)	25.54	0.89	24.64	10,537.29	5.02	1.12	528.97	286.03	533.53
9	NTPC									
	Farakka STPP (1600 MW)	20.95	0.73	20.22	-	0.00	3.36	150.02	703.99	854.01
	Kahalgaon STPP-I (840 MW)	10.40	0.36	10.04	-	0.00	2.12	165.99	220.51	386.50
	Talcher STPP – II (1000 MW)	12.81	0.45	12.36	-	0.00	2.81	12.05	359.83	371.88
10	Tripura – Baramura (2X5.25 MW)	45.96	1.61	44.37	4,176.00	25.00	1.75	533.35	804.61	1,337.96
11	OTPC-Palatana (726 MW)	-	-	-	-	3.03	3.46	-	-	-
12	1) Trans. Charges (PGCIL)	-	-	-	-	-	-	-	-	1,279.40
	2) ULDC Charges (PGCIL)	-	-	-	-	-	-	-	-	60.00
	Total	348.24	12.19	336.05	85,624.56	8.87	1.19	3,580.28	4,154.43	8,695.97
13	O&M Expenses of Local generating Stations									79.78
14	Payment made during FY 2010-11 against Supply bills received									1,108.13
15	Net Trading / UI	46.21		46.21	-	-	4.62	-	-	2,134.90
	Grand Total	435.76	13.63	422.13	102,270.39	8.87	6.13	4,877.60	5,884.90	15,143.25

Table - 6.24: Power purchase cost projected by PED for FY 2012-13

(Rs. lakh)

Sl. No.	Station	Purchase (MU)	External losses (MU)	Energy Rec (MU)	AFC	Mizoram's share (%)	V/C (per kWh)	FC	VC	Total
	NEEPCO									
A	Hydro									
1	Kopilli –I HEP (200 MW)	32.00	1.12	30.88	8129.79	4.61	0.38	374.78	120.96	495.74
2	Kopilli –II HEP (25 MW)	5.50	0.19	5.31	1424.62	6.04	0.92	86.05	50.55	136.59
3	Khandog HEP (50 MW)	6.20	0.22	5.98	4477.31	3.94	0.73	176.41	45.32	221.73
4	Ranganadi HEP (405 MW)	80.00	2.80	77.20	31980.31	5.70	1.16	1822.88	927.20	2750.08
5	Doyang HEP (75MW)	15.00	0.53	14.48	6435.00	5.25	1.48	337.84	221.55	559.39
B	Gas based									
6	Assam gas based power project (291 MW)	97.60	3.42	94.18	27283.63	5.41	1.52	1476.04	1486.45	2962.49
7	Agartala gas turbine power project (84 MW)	38.69	1.35	37.34	7826.45	5.98	2.04	468.02	789.28	1257.30
C	Others									
8	NHPC Loktak HEP (105 MW)	30.00	1.05	28.95	10537.29	5.02	1.22	528.97	266.00	894.97
9	NTPC									
	Farakka STPP	22.00	0.77	21.23	91005.42	0.15	2.73	136.51	600.60	737.11
	Kahalgaoon STPP-1	12.00	0.42	11.58	55832.26	0.15	2.60	83.75	312.00	395.75
	Talcher STPP – 1	14.00	0.49	13.51	59480.41	0.15	1.53	89.22	214.20	303.42
10	Tripura – Baramura (2X5.25 MW)	90.00	3.15	86.85	4176.00	25.00	1.75		1575.00	1575.00
11	OTPC-Palatana (726 MW)	40.00		38.60		3.03	3.46		1384.00	1384.00
12	1) Trans. Charges (PGCIL)	-	-							1236.00
	2) ULDC Charges (PGCIL)	-	-							60.00
	Total	482.99	15.50	466.09	308588.48	8.87	1.68	5580.47	8093.10	14969.57
13	O&M Expenses of Local generating stations									120.00
14	Supplementary bills received due to revision of AFC, etc.									4182.34
15	Net Trading / UI	-70.15		-70.15			3.00			-2104.50
	Grand Total	412.84	15.50	395.94	308588.48	8.87	4.68	5580.47	8093.10	17167.41

Commission's Analysis

The Commission has examined the station-wise power purchase cost projected by PED in the additional data submitted vide letter dated 14.06.2012. Commission has verified the energy availability from North Eastern Power Coordination Committee (NERPC) and also the details of bills raised by respective generating companies for the FY 2010-11 and FY 2011-12. The prices as billed for FY 2011-12 by the respective generating companies are considered for working out power purchase cost. PED has also submitted in their letter No. T-23011/02/10/E-in-C (P)/Com/12 dated 30.04.2012 that the generation from Palatana expected from September 2012 and has assumed that 40 MU energy would be available from this station during FY 2012-13. The Commission has considered the Power Purchase costs projected by PED for the FY 2012-13 at 483 MU.

For calculation of the power purchase cost the rates for AFC has been considered at the rates approved by CERC for the year 2012-13. Other rates are considered at the same rate proposed by the PED

Power purchase cost computed by the Commission for FY 2012-13 is given in the table below :

Table - 6.25: Power purchase cost approved by the Commission for FY 2012-13

Sl. No.	Station	Purchase (MU)	AFC (Crs)	Mizoram's share %	V/C (Rs./Unit)	FC (Rs. Lakh)	VC (Rs. Lakh)	PGCIL & Others (Rs. Lakh)	Total (Rs. Lakh)
I	NEEPCO								
1	Khandong	6.20	44.7731	3.94	.73	176.41	45.26		221.67
2	Kopili-I	32.00	81.2979	4.61	.38	374.78	121.60		496.38
3	Ranganadi	80.00	291.3941	5.70	1.16	1660.95	928.00		2588.95
4	AGTPP, Tripura	38.70	69.8278	5.98	2.04	417.57	789.28		1206.85
5	AGBPP, Kathalguri	97.60	238.82	5.41	1.52	1292.02	1483.52		2775.54
6	Doyang, Nagaland	15.00	58.5000	5.25	1.48	307.13	222.00		529.13
7	Kopili - II	5.50	13.3856	6.04	.92	80.85	50.60		131.45
II	NHPC								
8	Loktak, Manipur	30.00	101.2114	4.94	1.22	499.98	366.00		865.98
9	Arrears of NHPC (FY 2011-12)							478.03	478.03
10	Arrears of NEEPCO (2011-12)							3209.75	3209.75
III	Arrears of NERLDC							20.70	20.70
11	PGCIL arrears							473.85	473.85
12	PGCIL charges 2012-13							1236.00	1236.00
13	ULDC charges							60.00	60.00
IV	NTPC Thermal								
14	Farakka	22.00	827.3200	0.15	2.73	124.10	600.60		724.70
15	Kahalgaoon I	12.00	507.5680	0.15	2.60	76.14	312.00		388.14
16	Talcher	14.00	540.7310	0.15	1.53	81.11	214.20		295.31
17	Tripura - Baramura	90.00		25.00	1.75		1575.00		1575.00
18	Palathana	40.00			3.46		1384.00		1384.00
19	Other charges								
	Total	483				5091.04	8092.06	5478.33	18661.43

The Commission accordingly approves the power purchase cost at Rs. 18661.43 lakhs (including arrears) and purchase of 483 MU for FY 2012-13 as projected by PED.

6.15 Operation and Maintenance Expenses

6.15.1 Employee Cost

PED Mizoram has projected employee cost at Rs 8052.30 lakhs for the FY 2012-13, which is 11.84% escalated over the estimated expenses of Rs 7200.10 lakhs for the FY 2011-12. The details of employee cost projected by PED for the year FY 2010-11, FY 2011-12 and FY 2012-13 are given in table below:

Table - 6.26: Employee Cost

(Rs. lakh)

Sl. No.	Category	FY 2010-11 Previous Year	FY 2011-12 Current Year	FY 2012-13 Ensuing Year
1	Salary	5751.38	6849	7671.00
2	Medical treatment	286.02	274.10	288.30
	Sub Total	6037.40	7123.10	7959.30
3	Other allowances	-	-	-
4	Wages	-	-	-
5	Domestic Traveling expenses	84.36	76.00	92.00
6	Stipend	46.69	1.00	1.00
	Sub Total	131.05	77.00	93.00
	Total Employee Cost	6168.45	7200.10	8052.30

(Table 2.11 of the Petition)

PED has, on a enquiry from the Commission, submitted actual expenditure for FY 2011-12 under employee cost as Rs. 55.138 cores vide their letter No.12, dated 30/4/2012. PED has again submitted the actual expenditure for FY 2011-12 at Rs. 8722.60 lakhs and projection for FY 2012-13 at Rs. 8564 lakhs.

Commission's Analysis

PED Mizoram has not furnished break up of salary components, such as, Basic Pay. DA compensatory allowance, house rent allowance, leave travel concession, pension gratuity, leave salary, etc.

The Commission has approved employee expenses at Rs 7655.81 lakh for FY 2010-11 in the Tariff order for FY 2010-11, against which the PED incurred the expenses at Rs 6168.45 lakh as actuals, which is 19.43% less than approved level. PED has stated that they have not considered leave salary contribution, Pension and terminal benefits in the Employee cost for FY 2012-13 and claimed an over all increase of about 11% over the expenses for FY 2011-12.

PED Mizoram have submitted the revised data of employee cost vide their No. T23011/02/10E-in-C(P) Com/19 dt 20.05.2012 for the year FY 2011-12 (actuals) and estimated data for FY 2012-13. As per the revised data the Employee Cost has been Projected at Rs. 8564 lakh for FY 2012-13 as detailed below which is inclusive of arrears of 6th Pay Commission. The employee cost projected for FY 2012-13 is almost at the same level of FY 2011-12 excluding arrears. It is stated that arrears payment was not released to regular staff during the FY 2011-12. PED has not maintained consistency of the data, and the projection for FY 2012-13 found to be exorbitant. The Commission however considers the data submitted at the latest, as a matter of regulatory process to finalize ARR for FY 2012-13.

Table - 6.27: Revised employees cost

Sl. No.		FY 2011-12 (Actuals)			FY 2012-13 (Projection)
		Plan	Non-plan	Arrears	
1	Regular	5375.80	138.00	-	5569.00
2	Work Charged	2876.40	88.90	189.20	2995.00
3	Muster Roll	-	-	54.20	
		8252.20	226.90	243.4	8564

The Commission approves Employees Cost at Rs. 8564 lakh as projected by PED for FY 2012-13.

6.15.2 Repairs and Maintenance

PED Mizoram has projected R & M expense at Rs 4311.40 lakh for the FY 2012-13 as given in the table below:

Table - 6.28: Repairs and Maintenance expenses projected by PED

Category	Previous Year FY 2010-11	Current Year FY 2011-12	(Rs. lakh)
			Ensuing Year FY 2012-13
Minor R &M	4101.15	3996.00	4200.00
R & M of Motor Vehicles	131.85	111.40	111.40
	4233.00	4107.40	4311.40

(Table 2.13 of the Petition)

It is stated that PED is strained to determine the amount to be incurred on Repair & Maintenance of its fixed assets in the light of very limited financial resources allocated by Govt of Mizoram. Therefore there is no clear trend of Repairs & Maintenance expenses during the years 2010-11 to 2012-13. PED sought for the approval of R & M expenses as projected in order to ensure better and timely maintenance of distribution network and to extend better consumer service.

Commission's Analysis

PED Mizoram has not furnished details of volume of fixed assets, spares, consumables and service expenses and audited accounts for the projected expenses. The Commission had approved Rs 1011 lakh towards R & M for the FY 2010-11 as claimed by the licensee. PED Mizoram has not furnished details of distribution net work and audited accounts in support of the projected R & M expenses for the FY 2012-13. As per the Regulations 98 (4), (c), (i), (ii), of JERC Manipur & Mizoram, the expenses as approved by the Commission for the first time of a year shall be considered as base O & M expenses for determination of O

& M expenses for subsequent years. Base year expenses shall be adjusted according to variation in the rate of WPI per annum to determine expenses for subsequent years. PED has furnished WPI data vide Format .29 as stated here under.

The Commission had approved Rs 1011 lakh for the FY 2010-11 towards R & M expenses, which forms the basis for subsequent year expenses as per the WPI.

The R&M Expenses are worked out as stated below for projection for FY 2012-13

Table - 6.29: R&M Expenses

Particular	Previous Year FY 2010-11	Current Year FY 2011-12	Ensuing Year FY 2012-13
WPI	11.23%	7.47%	9.26%
R&M	Rs. 1011 lakh	Rs. 1087 lakh	Rs. 1187 lakh

The Commission, therefore, approves R & M expenses at Rs 1187 lakh for the FY 2012-13 considering increase in WPI for FY 2011-12 and FY 2012-13.

6.15.3 Administration and General Expenses

PED has projected Administration and General expenses Rs 475.70 lakh for the FY 2012-13

Table - 6.30: Administration and General expenses projected by PED

(Rs. Lakh)				
Sl. No.	Category	Previous Year FY 2010-11	Current Year FY 2011-12	Ensuing Year FY 2012-13
1	Rent, Rates & Taxes	48.23	56.7	56.70
2	Regulatory Fees	19.00	14.20	15.00
3	Publication	0.20	5.00	5.00
4	Legal & Consultation charges	-	1.00	15.00
5	Office Expenses	164.40	165.00	165.00
6	Advertisement	30.33	28.00	48.00
7	(Grant in Aid) Employee welfare expenses	46.00	46.00	46.00
8	Other charges	102.93	125	125
	Total	411.09	440.90	475.70

(Table 2.14 of the Petition)

PED has stated that they have accounted tentative expenditure on fees payable to the Commission and to the consultants hired for implementation of various improvement activities. Adjustments for actual expenses will be under taken at the time of True-Up exercise for 2012-13. PED sought for approval of the projected expenses for FY 2012-13.

Commission's Analysis

The expenses shall be admissible as per Regulation 98, (4), (c), (i), (ii), of the JERC Regulations for Manipur & Mizoram. PED has included Grant in Aid under Admin & General Expenses for Rs 46 lakh for previous year 2010-11 current year 2011-12 and Ensuing year 2012-13 which is to be shown as employees welfare expenses.

The PED has not furnished audited accounts, for the previous year 2010-11. The details for office expenses and other charges are not made available so as to judge the nature of expenses.

The Commission approves Admin & General expenses at Rs 475.70 lakh for FY 2012-13 as projected by PED.

6.16 Depreciation (Projected)

PED in its ARR petition has claimed depreciation at Rs 2546 lakh for the FY 2012-13. The Asset wise breakup figures required in the Format No 11 were not furnished and stated that the information is not available.

PED has stated that 90% funding of the infrastructure project costs are provided by Govt. of India as a special assistance for the development of infrastructure in North Eastern States and infrastructure is supported through grants, through schemes of APDRP, RGGVY etc. PED also stated that due to unavailability of complete data of the gross fixed assets, it is assumed that 90% of the total GFA is being funded through grants and accordingly the proportionate amount to the extent of 90% of the total depreciation computed as explained in the table 2.7 of the petition. The PED has also not furnished the work wise projection of capital expenditure for the FY 2012-13 in the table No 2.5 of the petition. But the capitalization summary for the previous year, current year and ensuing year is furnished as stated below together with capital expenditure during the financial year vide table 2.6 of the petition.

Table - 6.31: Capital expenditure and capitalization

(Rs. lakh)			
Category	Previous Year FY 2010-11	Current Year FY 2011-12	Ensuing Year FY 2012-13
Capital expenditure incurred during the financial year	12572.11	210.72	13829.32
Asset capitalization during the financial year	681.09	257.46	12890.77

(Table 2.6 of petition)

PED, on further query raised by the Commission have submitted the revised capex and capitalization data vide letter dated 20/5/2012 as in the table below.

Table - 6.32 : Revised capex and capitalization

Particulars	Cumulative CAPEX till FY 2010-11	FY 2010-11 (Actual)	FY 2011-12 (Provisional)	FY 2012-13 (Projected)
Capital expenditure incurred	59081.26	3941.63	4985.00	13495.27
Asset capitalisation during the financial year	-	2963.27	2710.27	3585.29

Commission's Analysis

The Commission had, in the Tariff order for FY 2010-11, held that the value of the assets arrived by the PED with certain assumptions which are not considered in the absence of the audited assets Registers and Asset wise depreciation to be allowed in the ARR. The Commission, however, recognized the assets are in place, the network is in operation and serving the consumers. The PED was directed to furnish the detailed information in the prescribed formats in the next ARR and tariff petition.

The Commission had in the tariff order for the FY 2010-11 considered opening GFA as on 01/04/2007 at Rs 47063 lakh as per the transfer scheme in the final report dated 20/11/2007 on Restructuring of Power Sector and validated as at 01/04/2010 duly accepting 10% of the proposed additions during the FY 2007-08, 2008-09, 2009-10 and after deducting the value of assets created with consumer contribution and grants & subsidies received from Govt. of India.

PED Mizoram have, submitted the revised GFA and proposed additions during the year FY 2012-13 vide their Letter dt 02.07.2012. The Commission considers the revised GFA (updated) as on 01.04.2012 and computed provisionally. The GFA has been segregated between Generation, Transmission and Distribution as detailed below:

Table - 6.33: Depreciation for the FY 2012-13**(Rs. in lakh)**

Sl. No.	Item	Opening GFA 01.04.2012	Asset addition during FY 2012-13	Assets as on 31/3/2013	Avg. assessts	Amount of depreciation
1	2	3	4	5	6	7
1	Generation	15006.16	19133.00	34139.16		
2	Transmission	22707.17	457.06	23164.23		
3	Distribution	30789.62	2478.36	33267.98		
4	Buildings	3469.05	0	3469.05		
	Total	71972	22068.42	94040.42		
Less consumers contribution		347		347		
	Less Grants	39210		59071		
	Net GFA	32415		34622.42	33518.71	1769.79

Say 1770

The depreciation on average GFA is calculated at 5.28%,

Depreciation on the assets during the FY 2012-13 is considered at 10% of the assets value since 90% of funds are stated to be provided by the Government of India as grant.

The Commission approves depreciation at Rs. 1770 lakh for FY 2012-13.

6.17 Interest & Finance Charges

PED in its ARR petition has claimed Rs 137 lakh as interest and finance charges for the FY 2012-13 in the table No. 2.15 of the petition. The source wise loan details are furnished in the Format 15 in the petition which are depicted below:

Table - 6.34: Details of loans and interest**(Rs in lakh)**

FY 2010-11 (Actuals)						
Tendering Bank/Agency	Rate of Interest	Opening Balance	Additions during the year	Repayment during the year	Closing Balance	Interest Paid
LIC	8%	1534	-	133	1401	123
REC	8.5%	6824	1604	2316	6112	1678
						1801
FY 2011-12 (Estimated)						
LIC	8%	1401	-	133	1268	107
REC	8.5%	6112	-	66	6046	51
				199	7314	157
FY 2012-13 (Projected)						
LIC	8%	1268	-	133	1135	96
REC	8.5%	6046	-	31	6015	41
				164	7150	137

(Source: Format 15 of petition)

It is noted that no fresh loans were drawn by PED as per the ARR Format-15.

Commission's Analysis

The loans and the interest claimed by PED is examined. The interest claimed on REC loan for FY 2012-13 appears to be wrong. The interest on loans as computed by the Commission is as given in table below:

Table - 6.35: Interest on loans approved by the Commission for FY 2012-13

(Rs. lakh)

Loan Sources	Interest Rate	Opening Balance	Additions during the year	Repayment during the year	Closing Balance	Interest paid
LIC	8.0%	1268	-	133	1135	96
REC	8.50%	6046	-	31	6015	513
Total Interest						609

The Commission approves interest on loan at Rs 609 lakh for FY 2012-13.

6.18 Interest on Working Capital

PED Mizoram in its ARR petition has projected Rs 324.72 lakh towards interest on working capital for the FY 2012-13 @ 14.75% PLR as on the 01/04/2012.

Table - 6.36: Interest on working capital projected by PED

(Rs. lakh)

Sl. No.	Category	Previous year FY 2010-11	Current year FY 2011-12	Ensuing year FY 2012-13
1	Fuel cost (1 month)	2.39	0.23	0.23
2	Power purchase cost (1 month)	610.42	771.25	1131.33
3	O&M expenses (1 month)	901.05	979.03	1069.95
4	Total working capital	1513.86	1750.52	2201.52
5	Rate of interest on working capital i.e. SBI short term PLR on 1 st April of respective FY	11.75%	14.75%	14.75%
6	Interest on working capital	177.88	258.20	324.72

(Table 2.16 of petition)

Commission's Analysis

As per the Regulation 98 (6) (b) of JERC regulations the working capital has to be computed on normative basis for Integrated utility as below:

- (i) One month Fuel cost
- (ii) One month Power purchase cost
- (ii) One month O & M expenses
 - (a) Employees cost
 - (b) R & M expenses
 - (c) Administration & General Expenses.

Rate of Interest shall be short term prime lending rate of SBI as on the 1st April of the relevant year.

The working capital and Interest there on as computed by the Commission is given in table below:

Table - 6.37: Interest on working capital approved for FY 2012-13

			(Rs. lakh)
Sl. No.	Particulars		Amount
1.	One month Fuel cost		0.23
2.	One month Power purchase cost		1555.12
3.	One month O & M expenses		
	(a) Employees cost	713.67	
	(b) R & M expenses	98.92	
	(c) Administration & General Expenses	39.64	852.23
4	Total working capital		2407.58
5	Interest on working capital at 14.75%		355.12

The Commission approves the interest on working capital at Rs. 355.12 lakh for FY 2012-13.

6.19 Provision for Bad & Doubtful debts

PED has projected Bad & Doubtful debts at Rs 109.31 lakh for the FY 2012-13

Commission's View

As per the Regulation 98 (5) of JERC regulations for calculation of ARR, a provision of 1% of receivables shall be allowed towards Bad debts after the Licensee gets the receivables audited. PED has not furnished any data on the receivables with audit certificate.

In view of the above the Commission has not considered any provision towards Bad & Doubtful debts for the FY 2012-13.

6.20 Return on Equity

PED in its ARR petition submitted that the Assets and Depreciation Registers are yet to be maintained, proposals for engagement of consultant and auditors were submitted to the Government for necessary approval. Besides this, fixed assets of PED have been funded through various sources like contribution by State Government, grants and aids through financial institutions under various schemes like APDRP, RGGVY etc., where complete data of these grants were not available with PED. Due to these reasons, and also in line with the decision made by the

Commission in the last tariff order 2010-11 for PED, para 5.23, the return on equity is not considered while computing the ARR.

The Commission has not considered Return on equity for FY 2012-13.

6.21 Non-Tariff Income

PED Mizoram has projected Non-tariff income at Rs 180 lakh for the FY 2012-13.

Commission's Analysis

Non-tariff Income consists of Income from Meter rent, Late Payment Surcharge, Theft/Pilferage of energy, Misc receipts, Misc charges, Wheeling charges, Interest on staff loans & advances, Income from trading, excess on stock verification, Cost of Tender specification, Interest on investments/Bank Deposits etc.

The PED has furnished the Non-tariff income in total at Rs 180 lakh without any breakup of the nature of above said sources. PED shall maintain the books indicating the nature of all receipts. The Commission assessed non-tariff income considering the fact that the meter rent claimed for 200463 consumers minimum at Rs.15 per month only would account for Rs. 360 lakhs for FY 2012-13. Anticipating the income from late payment surcharge and other miscellaneous charges, the non-tariff income would be more than Rs.400 lakhs

Therefore, Commission considers Non-tariff income at Rs. 400 lakhs for the FY 2012-13.

6.22 Subsidy

PED in its ARR petition has submitted that the Government of Mizoram has committed to provide tariff support / subsidy of Rs. 23479.10 lakh for FY 2012-13. PED further stated that inspite of best efforts being rendered, the overall performance could not be improved resulting the gap between receipt and expenditure, the revenue from sale of power is not sufficient to meet the expenditure; and as a result of this PED shall continue to depend upon the tariff support / subsidy from the Government of Mizoram.

Commission's Analysis

There has been a steep increase in power purchase cost and employee cost. The Department has also not reduced the T&D losses to a reasonable level. On the other hand all the consumers' paying capacity is low and tariff shock shall be

avoided. The Commission considers the necessity for a Govt. support of Rs. 18765.76 lakhs as computed in clause 6.25.

6.23 Aggregate Revenue Requirement

Based on the above discussions, the Commission has approved the ARR for FY 2012-13 as given in table below:

Table - 6.38: ARR projected by PED and approved by the Commission for FY 2012-13

(Rs. lakh)			
Sl. No	Particulars	ARR projected by PED	ARR approved by the Commission
1	Cost of fuel	2.80	2.80
2	Cost of power purchase	17167.41	18661.43
3	Employee cost	8564.00	8564.00
4	R&M expenses	4311.40	1187.00
5	A&G expenses	475.70	475.70
6	Depreciation	2545.66	1770.00
7	Interest and finance charges	136.68	609.00
8	Interest on working capital	386.08	355.12
9	Provision for bad debts	109.30	-
10	Return on equity	-	-
11	Total expenditure	34590.39	31625.05
12	Less: Non-tariff income	180.00	400.00
14	Aggregate revenue requirement	34410.39	31225.05

6.24 Expected Revenue from existing tariff

The PED has furnished the revenue from existing tariff at Rs. 10892.00 lakhs for FY 2012-13 as tabulated below:

Table – 6.39 : Revenue from Existing Tariff

(Rs. Crore)				
S. N.	Particulars	Previous Year (FY 2010-11)	Current Year (FY 2011-12)	Ensuing Year (FY 2012-13)
1	Domestic (HT & LT)	28.49	52.34	77.52
2	Commercial (HT & LT)	4.95	6.93	5.90
3	Public Lighting (LT)	2.61	3.65	4.43
4	Irrigation & Agriculture (LT)	0.02	0.11	0.19
5	Public Water Works (HT & LT)	14.28	13.17	14.20
6	LT Industries	0.38	1.27	1.35
7	HT Industries	0.11	0.25	0.99
8	Bulk Supply (HT)	4.68	5.08	4.35
	Total	55.53	82.80	108.92

On further query by the Commission, the PED submitted again the slab-wise number of consumers, connected load and energy sale for all categories of consumers for the FY 2011-12 and FY 2012-13 (Projection) vide their letter dt. 30.04.2012. The PED vide their letter dt. 25.05.2012 furnished again the details of

slab-wise energy sales during FY 2011-12 (Provisional) and FY 2012-13 (Estimated) which are tabulated below. The PED stated that the estimated energy sales for FY 2012-13 were worked out based on the actual energy sales during 2011-12 with average increase of 10 to 15%.

Table – 6.40 : Energy sale for the FY 2011-12 (Provisional)

S. N.	Category of Consumers	No. of Consumers	Connected load at the end of the year (kW)	Energy Sales (MU's)
1	2	3	4	5
1	Kutir Jyoty	14047	1505.240	3.394
	Domestic (LT)	157301	191290.520	167.287
	Domestic (HT)	6	1040.000	0.2350
2	Commercial (LT)	4910	17639.927	17.975
	Commercial (HT)	40	546.800	0.913
3	Public Lighting	763	1544.805	6.044
4	Irrigation & Agriculture (LT)	15	18.180	0.004
	Irrigation & Agriculture (HT)	1	85.000	0.091
5	Public Water Works (LT)	10	518.250	0.231
	Public Water Works (HT)	28	29102.620	36.052
6	Industrial (LT)	599	5203.180	0.554
	Industrial (HT)	11	2199.200	0.329
7	Bulk Supply	213	25678.880	17.312
	Total	177944	276372.602	250.42

Table – 6.41 : Energy sale for the FY 2012-13 (Estimated)

S. N.	Category of Consumers	No. of Consumers	Connected load at the end of the year (kW)	Energy Sales (MU's)
1	2	3	4	5
1	Kutir Jyoty	17500	1806.29	5.00
	Domestic (LT)	175000	210419.57	195.00
	Domestic (HT)	10	1144.00	0.50
2	Commercial (LT)	6000	19403.92	21.00
	Commercial (HT)	48	601.48	1.50
3	Public Lighting	897	1699.29	7.00
4	Irrigation & Agriculture (LT)	25	20.00	1.00
	Irrigation & Agriculture (HT)	2	93.50	0.25
5	Public Water Works (LT)	11	570.08	0.50
	Public Water Works (HT)	30	32012.88	42.00
6	Industrial (LT)	675	5723.50	1.00
	Industrial (HT)	15	2419.12	0.50
7	Bulk Supply	250	28246.77	20.00
	Total	200463	304160.39	295.25

Commission's Analysis

The Commission has examined all relevant data furnished by the PED and the category-wise sale are approved in Clause 6.6 and the revenue from the existing tariff is assessed and furnished in the table below. While computing the revenue, the Commission has considered the outside sales (UI) as part of sales revenue.

Table - 6.42: Expected revenue from existing tariffs approved by the Commission

(Rs. lakh)						
Sl. No.	Category	Approved sales (MU)	Fixed Charges	Energy Charges	Total	Avg. Realization (Ps/kWh)
I	Kutir Jyothi	8.00	20.99	97.17	118.16	148
1	Domestic					
a	LT	222.00	631.27	5418.94	6050.21	273
b	HT	0.50	4.12	15.00	19.12	382
2	Commercial					
a	LT	22.00	116.42	805.37	921.79	419
b	HT	1.50	4.33	57.00	61.33	409
3	Public Lighting	7.00	10.20	297.50	307.70	440
4	Irrigation & Agriculture					
a	LT	1.00	0.05	11.00	11.05	111
b	HT	0.25	0.34	2.75	3.09	124
5	Public Water Works					
a	LT	0.50	3.42	20.00	23.42	468
b	HT	42.00	307.32	1596.00	1903.32	453
6	Industrial					
a	LT	1.00	34.34	31.50	65.84	658
b	HT	0.50	23.22	15.00	38.22	764
7	Bulk Supply	20.00	271.17	600.00	871.17	436
	Sub-Total	326.25	1427.20	8967.23	10394.43	319
8	Outside Sales (UI)	34.15	-	1024.50	1024.50	300
	Total	360.40	1427.20	9991.73	11418.93	

Detailed calculation statement is given in Annexure - I

6.25 Revenue gap with existing tariff

The Revenue Gap projected by PED is given in the table below:

Table - 6.43: Revenue gap with existing tariff projected by PED

(Rs. lakh)		
Sl. No	Particulars	Amount
1	Aggregate revenue requirement	34410.39
2	Revenue from existing tariff	9913.86
3	Gap (1-2)	24496.53

PED has stated in the tariff petition that the Govt. of Mizoram have committed to provide an amount of 23479.10 lakh as Tariff Support / subsidy to meet the revenue Gap for the FY 2012-13.

PED has proposed tariff increase to get an additional revenue of Rs. 1017.43 lakh only and requested the Commission to provide Rs. 10,000/- lakh as Regulatory Asset and balance Rs. 13479.10 lakh as subsidy from State Government as shown in the table below:

Table - 6.44: Net Revenue gap in FY 2012-13 after subsidy proposed by PED

(Rs. lakh)		
Sl. No.	Particulars	Proposed FY 2012-13
1	Revenue gap before subsidy	24496.53
2	Additional revenue from proposed tariff	1017.43
3	Balance to be recovered	23479.10
4	Regulatory Asset	10000.00
5	Subsidy from State Government	13479.10

Commission's Analysis and Decision:

The Commission has computed the revenue at existing tariffs including the sales under UI at Rs. 11418.93 lakhs as shown in table 6.42 above.

The Commission has arrived at the revenue gap as below:

Table - 6.45

(Rs. lakhs)		
Sl. No.	Particulars	Approved by Commission FY 2012-13
1	Net Aggregate Revenue Requirement	31225.05
2	Revenue from existing tariffs including sales under UI	11418.93
3	Revenue Gap	19806.12

PED's proposals on Govt. subsidy amount projected in the above two paras are contradicting. The gap to be realized is larger. Full recovery of the gap as subsidy of Rs. 19806.00 lakhs by the state Government will have adverse impact on the State's finances and affects the other sectors. The Commission, therefore, proposes to revise the tariffs with moderate increase as given in the tariff schedule. The Commission has not considered any regulatory asset. The revenue from the revised tariffs works out to be Rs. 11434.79 lakhs as given in Annexure-II. The net revenue gap, after considering the additional revenue due to revision of tariffs which works out to Rs. 1040.36 lakhs, would be Rs. 18765.76 lakhs as given in table below. This amount has to be met from the subsidy from the State Government.

Table - 6.46: Net Revenue requirement and gap with revised tariffs for FY 2012-13**(Rs lakh)**

Sl. No	Particulars	Projected by PED	Approved by the Commission
1	Net revenue requirement	34410.39	31225.05
2	Revenue from sale of power with existing tariff including UI sales	9913.86	11418.96
3	Addl. Revenue from proposed tariffs	1017.43	1040.36
4	Gap before subsidy (1-2-3)	24496.53	18765.76
5	Government subsidy	23479.10	18765.76
6	Energy sale (MU)	311.85	326.25
7	Average cost (Rs./kWh) before subsidy	11.03	9.57
8	Average cost (Rs./kWh) after subsidy	3.51	3.50

The Commission accordingly approves revenue from revised tariff as Rs. 11434.79 lakhs with the sale of 326.25 MU within the State (Detail calculation is given in Annexure – II). The average realization with the sale of 326.25 at the existing tariff is Rs. 3.19 per unit and at the approved tariff for 2012-13 is Rs. 3.50 per unit. This increase in average realization per unit is 9.72% only.

PED should improve its performance by way of reduction of losses, proper billing and revenue realization and reducing the costs.

7. Transmission and Wheeling Charges

7.1 Transmission Charges

PED being an integrated utility is to file petition for determination of transmission charges. Data made available to the Commission is also not adequate for fixing transmission tariff on suo-motu. The Commission attempted to fix the transmission charges based on the expenses approved in this Tariff Order by segregating the fixed costs of Generation, Transmission and Distribution in the ratio of Gross Fixed Asset. This even was not possible as there was inconsistencies in data. The Commission directed to take up the issue separately. PED is accordingly advised

7.2 Wheeling Charges

Separate petition is also to be filed by the PED for determination of the wheeling charges for implementation of open access in the State. The Commission attempted to fix the wheeling charges on suo-motu based on the expenses approved in this Order by apportioning the fixed cost. It was found difficult from the data available. PED is accordingly directed to file a petition for determination of wheeling charges.

8. Directives

8.1 General Status and Compliance of Directives issued in the Tariff Order for FY 2010-11

Directive 1: Submission of Next ARR

It was directed to file next ARR before 30th November every year.

Compliance Status

PED has not filed ARR & Tariff petition for FY 2011-12 within the prescribed date. The ARR & Tariff petition for FY 2012-13 was submitted on 21.02.2012 with a delay.

Commission's comments

Direction is not complied with.

Directive 2: Annual Statement of Accounts

Compliance Status

PED Mizoram in their letter No. T-23011/02/10–E-in-C (P) Com/18 Dated Aizawl 22.05.2012 has submitted that a proposal for engagement of Consultant to prepare books of Accounts and Assets Register was submitted to Government of Mizoram for sanction of financial commitment vide letter No. T.23002/11-EC (P) Com/47 dt. 30.01.2012, which is stated to be under process.

Commission's comments

The Directive was issued in the Tariff order 2010-11 in January 2011. The PED has initiated action after one year. Non-compliance of the Directive in time would result in non recovery of the Costs and Charges at actuals through the tariffs, which ultimately cause more burden to the Government for providing tariff support / subsidy to the utility. PED shall expedite for full Compliance. Direction is complied partially.

Directive 3: Preparation of Assets & Depreciation Registers / Records

Compliance Status

PED Mizoram in their letter No. T-23011/02/10 – E-in-C (P) Com/18 Dated Aizawl the 22.05.2012 has submitted that a proposal for engagement of Consultant to prepare books of Accounts and Assets Register was submitted to Government of Mizoram for sanction of financial commitment vide letter No. T.23002/11-EC (P) Com/47 dt. 30.01.2012, which is stated to be under process.

Commission's comments

The Directive was issued in the Tariff order 2010-11 in January 2011. The PED has initiated action after one year. Non-compliance of the Directive in time would result in non recovery of the Costs and Charges at actuals through the tariffs, which ultimately cause more burden to the Government for providing tariff support / subsidy to the utility. The direction is partially complied. PED shall expedite for full Compliance.

Directive 4: Management Information System

Compliance Status

PED has submitted that a Committee has been constituted to study the existing Information Management System and propose for upgradation / revision if necessary as required for reporting the data to JERC (M&M) and CEA.

Commission's comments

PED shall ensure the data updation as required for Regulatory system and also make use of data for Management review at E-in-C's level and submit the latest position. Direction is not complied with.

Directive 5: Pilferage of Energy

Compliance Status

PED has stated that Government of Mizoram has set-up special courts at two locations to cover northern and southern Mizoram stationed at Aizawl and Lengpui vide letter No. B-16013/28/2006 – P&E dt 27.02.2012 for speedy trial of Energy theft cases. It is also stated that special inspection squads are established to check illegal tapping, tampering of Meters and un-authorised use of energy.

Commission's comments

PED has been sustaining huge T&D losses due to non fixing of high accuracy energy meters for high consumption categories, non-replacement of dysfunctional meters and, at the same time theft and pilferage of energy. Theft and pilferage of energy shall be effectively dealt. Commission directs the PED to report the progress quarterly. The direction is complied partially.

Directive 6: Metering of Consumer installations / Replacement of non-functional defective meters and providing meters to un-metered connections**Compliance Status**

PED has submitted that no new services are being released without correct energy meter. The consumers with own meters were informed to replace the defective meters. Due to funds crunch the consumers with own meters were requested to provide their own healthy meters, where meter rent is not being charged.

Commission's comments

PED has not taken up adequate measures for 100% metering. PED shall ensure 100% metering by March, 2013 and compliance reported. Direction not complied with.

Directive 7: Contribution by Consumers for Capital investment**Compliance Status**

PED has submitted that local consumers extend co-operation and service to the Department for erection of Electric poles stringing lines by providing their plot of land free of cost for installation of DTs and HT & LT lines. But the volume of consumer contribution could not be quantified in terms of monetary value.

Commission's comments

Section 46 of Electricity Act 2003 provides for, Recovery of Expenditure reasonably incurred by the Licensee (PED Mizoram) in providing any electric line or electrical plant to any person requiring supply of electricity in pursuance of Section 43 of Electricity Act 2003.

Thus the expenditure so recovered will be classified as Consumer's Contribution towards Capital investment. The costs so recovered as per the Reg. 3.5 of JERC (electricity Supply Code) Regulation 2010 shall be capitalised after the service connections released. The total sum recovered, and capitalized during the year, will not be considered for calculation of Depreciation on assets during that year and the sum will be reduced while calculating the interest on Debt Capital. Action may be taken for recovery of such expenditure from the consumers and maintain such details.

PED shall maintain the books of accounts with specific classification as required for ARR Format-23. Direction is not complied with.

Directive 8: Transmission and Distribution Losses

Compliance Status

PED Mizoram has stated that the under sized conductors being replaced with AB cables in Urban areas like Aizawl & Lunglei in order to minimize the T&D losses.

Commission's comments

Commission directed to get energy audit conducted by providing meters in at 132kV, 33 kV and 11 kV feeders and distribution transformers to identify the high loss areas and take appropriate measures to reduce the loss. PED has not complied with the direction. The loss level is still as high as 39%. PED Mizoram shall expedite the Measures initiated like replacement of dysfunctional meters, providing high accuracy energy meters, while continuing the process of providing AB cables.

Directive 9: Consumers bills

Compliance Status

PED has submitted that implementation of spot billing system could not be achieved with the existing staff & infrastructure. Focus being kept on introducing the spot billing with the APDRP scheme funds.

Commission's comments

As per Section 56 (1) of electricity Act 2003, the PED may allow 15 days time to consumers for Payment of Charges for supply of Electricity and in lieu of the notice the same may be displayed on the monthly bills. PED Mizoram may consider out sourcing the activity of spot billing by which the collection of Consumer bills will be realized within 15 days of issue of bill. Many utilities are implementing spot billing and found beneficial in avoiding delays in taking readings, preparation of manual bills and serving of such bills.. PED may review & analyse the cost effect benefits for implementation of the spot billing system and take action on priority. The existing system of billing entails delay in collection of revenue by two months for the energy consumed. The direction is not complied with.

Directive 10: Investment and Capping of Capital Expenditure

Compliance Status

PED Mizoram has submitted the investment plan of 12th Five year plan, wherein phasing of works programme in FY 2012-13 to FY 2016-17 is featured.

Commission's comments

The investment plan for the FY 2012-13, as per the document is Rs. 183.59 crore covering 22 Hydel Projects (spill over works) new works, R&M of existing projects, 3 Nos. Transmission schemes (New works), 7 Nos Transmission line works and 7 Nos Transformation works. The plan envisage the Distribution works which includes erection of 33 kV lines DTRs Metering etc. The projected plan seems to be Herculean task since achievement of physical progress is stated to be subject to fund tie up. PED may consider realistic investments in the FY 2012-13. Direction is complied partially.

Directive 11: High Employee Cost of the Department

Compliance Status

PED has submitted that initially the Department was not setup to suit a commercial entity in nature. Further stated that service matters etc. are at par the other Government Department employees. Therefore the Department could not change its present function by its own. Due to the above circumstances, the employee cost cannot be reduced at this instance.

Commission's comments

The total No. of employee at the end of March 2011 is 4642. Necessity for such huge strength may be critically examined so as to reduce high costs on continuous basis. Direction is not complied with.

Directive 12: Metering of H.T services with MD Indicators**Compliance Status**

PED has stated that MDIs are introduced in some high consumption consumers like ICFAI – office, Aizawl, Zoological Garden, Municipal Council Office. HT Consumers are being encouraged to provide MDIs.

Commission's comments

HT consumers are high revenue yielding units. For such consumers PED can procure and provide meters instead of requesting consumers for procurement. Cost of metering equipment can be compensated by increase in revenue. Direction is partially complied.

Directive 13: Display of Government tariff support on the Consumers bills**Compliance Status**

PED has submitted specimen copies of the Consumer bills wherein it is displayed as 53.50% Tariff subsidy being given by the Government of Mizoram.

Commission's comments

Direction is complied.

Directive 14: Fixation of last date of payment**Compliance Status**

PED stated that the Due Date of Payment and Last Date of Payment were treated as same. As such the due date of payment is fixed as due date for disconnection process.

Commission's comments

As per Section 56 (1) of Electricity Act 2003, the PED may allow 15 days time to consumers for payment of Charges for supply of Electricity and in lieu of the notice the same may be displayed on the monthly bills.

The PED is allowing the consumers for payment of Electricity bills 45 days (approximately) from the date of issue of the bill (As per the specimen copy of the bills submitted for the month of April 2012) whereas the Generators / suppliers of Power to PED are claiming interests at 1.25% of the bill amount for delay beyond stipulated one month. PED may consider and initiate expeditious action on this Directive, which will improve cash flow crunch. Action taken shall be reported within three (3) months of the Order.

8.2 Fresh Directives

Directive 1: Contract Demand

With the introduction of two-part tariff in the Tariff Order of 2010-11 the consumers feel the impact of connected load in the Electricity bill is high. The PED stated that connected load and contract demand are the same in Mizoram. If so, the Commission has observed that the contract demand is high. PED is therefore directed to reassess the contract demand by December, 2012 and submit a report.

Directive 2 : Timely Submission of Tariff Petition

PED is directed to file Retail Tariff Petition for FY 2013-14 by 30th November, 2012.

Directive 3 : Restructuring of Staff

PED has stated that the number of employee as on 31st March, 2012 is 4575. It is very high. The Department however, has pleaded shortage of staff for poor performance. The Commission has observed that deployment of the existing staff is not rational. PED is directed to prepare a restructuring plan by 31st December, 2012 and submit a report.

Directive 4 : Tariff Petition for Small Hydro Power Stations

The State has 8 (Eight) Small Hydro Power Stations with installed capacity of 1 MW and above. Generation Tariff of these stations need to be determined. PED is directed to file the Tariff Petition for these projects by 31st January, 2013.

Directive 5 : Transmission Charges

Transmission charges are to be determined for implementation of open access to the State. As stated in Chapter – 7 of this Order the PED is directed to file Tariff Petition for Transmission by February, 2013.

Directive 6: Wheeling Charges

The need for fixing of the wheeling charges for implementation of open access to the State has been explained in the Chapter – 7 of this Order. PED is directed to file Petition for wheeling charges by 31st March, 2013.

Directive 7: Review Petition

The Commission is to undertake review with next Tariff. PED is directed to submit review petition along with the next Tariff Petition.

9. Tariff Principles and Design

9.1 Background

- 9.1.1 The Commission in determining the revenue requirement of PED, Mizoram for the year 2012-13 and the retail tariff has been guided by the provisions of the Electricity Act, 2003, the National Tariff Policy (NTP), Regulations on Terms and Conditions of Tariff issued by the Central Electricity Regulatory Commission (CERC) and Regulations on Terms and Conditions of Tariff notified by the JERC. Section 61 of the Act lays down the broad principles, which shall guide determination of retail tariff. As per these principles the tariff should “Progressively reflect cost of supply” and also reduce cross subsidies “within the period to be specified by the Commission”. The Act lays special emphasis on safeguarding consumer interests and also requires that the costs should be recovered in a reasonable manner. The Act mandates that tariff determination should be guided by the factors, which encourage competition, efficiency, economical use of resources, good performance and optimum investment.

The NTP notified by Government of India in January 2006 provides comprehensive guidelines for determination of tariff as also working out the revenue requirement of power utilities. The Commission has endeavored to follow these guidelines as far as possible.

- 9.1.2 NTP mandates that the Multi-Year-Tariff (MYT) framework be adopted for determination of tariff from 1st April 2006. However the Commission is not in a position to introduce MYT Regime in the State mainly because of lack of requisite and reliable data with the Power and Electricity Department. The present MIS and regulatory reporting system of the PED is very inadequate for any such exercise at this stage. There has been no study to assess voltage wise losses in the absence of metering of all feeders, distribution transformers and consumers. Technical and commercial losses are yet to be segregated and quantified voltage wise. The Commission has issued directives to the PED in the Tariff Order 2010-11 to chalk out action plan for reduction of T&D losses for both technical and non-technical, maintain correct data, energy audit and submit to the Commission by June 2011 which are not complied with. Under these conditions it would not be practicable to implement the MYT framework this year. The Commission taking into account all factors, has decided to introduce MYT in due course, as soon as the data is made available.

9.1.3 The mandate of the NTP on cross subsidy is that tariff should be within plus / minus 20% of the average cost of supply by 2010-11. This could not be achieved due to high cost of power, low paying capacity of the consumers and lack of industrialization. The PED has not furnished the voltage-wise cost of supply. A directive has been issued in this order to build up data to arrive at cost of supply at various voltage levels etc. Hence, in working out the cost of supply, the Commission has gone on the basis of average cost of supply in the absence of relevant data for working out consumer category wise cost of supply. However in this tariff order an element of performance target has been indicated by maintaining the set target for T&D loss reduction for the year 2012-13 and 2013-14 in the tariff order of 2010-11. This guides the PED for better performance by reduction of loss level, which will result in substantial reduction in average cost of supply. The existing and proposed tariff of PED is two-part tariff. The Commission introduced two-part tariff FY 2010-11.

9.1.4 Section 8.3 of National Tariff Policy lays down the following principles for tariff design:

1. In accordance with the National Electricity Policy, consumers below poverty line who consume below a specified level, say 30 units per Month, may receive a special support through cross subsidy. Tariffs for such designated group of consumers will be at least 50% of the average cost of supply. This provision will be re-examined after five years.
2. For achieving the objective that the tariff progressively reflects the cost of supply of electricity, the SERC would notify the roadmap, within six Months with a target that latest by the end of the year 2010-11 tariffs are within \pm 20% of the average cost of supply. The road map would have intermediate milestones, based on the approach of a gradual reduction in cross subsidy.

For example if the average cost of service is Rs.3 per unit, at the end of year 2010-11 the tariff for the cross subsidized categories excluding those referred to in para-1 above should not be lower than Rs. 2.40 per unit and that for any of the cross subsidizing categories should not go beyond Rs.3.60 per unit.
3. While fixing tariff for agricultural use, the imperatives of the need of using ground water resources in a sustainable manner would also need to be

kept in mind in addition to the average cost of supply. The tariff for agricultural use may be set at different levels for different parts of the State depending on the condition of the ground water table to prevent excessive depletion of ground water.”

4. Regulation 16 of JERC (Terms and Conditions for Determination of Tariff) Regulations specifies.

(a) The cross subsidy for a consumer category means the difference between the average per unit rate based on tariff schedule of the Commission for that Category and the combined average cost of supply per unit expressed in percentage terms as a portion of the combined average cost of supply.

(b) In the first phase, the Commission shall determine the tariff, so that it progressively reflects the combined average cost of supply of electricity and also reduce cross-subsidies within a reasonable period. In the second phase, the Commission shall consider moving towards category wise cost of supply as a basis for determination of tariff.

9.1.5 NEP aims at increased access to electricity, supply of reliable and quality power at reasonable rates, minimum lifeline consumption, financial turnaround of consumer interest. The Commission has considered factors as far as possible which aim at achieving the objectives of NEP while determining the revenue requirement of the PED and designing the retail tariff for its consumers. The Commission considered for special treatment to Kutir Jyoti connection and agricultural sector. It has also aimed at to raise the per capita consumption of the State from the existing level of 270 kWh to 350 kWh by the end of 2015. The Commission endeavors that the tariff progressively reflects cost of supply in a shortest period and the government subsidy is reduced gradually. The tariff has been rationalized with regards to inflation, paying capacity and avoid tariff shock.

9.2 Tariff Proposed by PED and Approved by the Commission

9.2.1 Tariff Categories

In the ARR and Tariff Petition of 2012-13, PED has not proposed any changes in the existing categories of consumers and tariff structure.

The Commission considers retaining the existing categories as stated below:

1. (a) Kutir Jyothi
(b) Domestic LT
(c) Domestic HT
2. (a) Commercial LT
(b) Commercial HT
3. Public Lighting
4. (a) Irrigation & Agriculture LT
(b) Irrigation & Agriculture HT
5. (a) Public Water Works LT
(b) Public Water Works HT
6. (a) Industrial LT
(b) Industrial HT
7. Bulk Supply HT

9.2.2 Existing & Proposed Tariff

PED in its tariff petition for FY 2012-13 has proposed for revision of the existing two part retail tariffs to various categories of consumers to earn additional revenue of Rs.1017 lakhs to meet the gap partially as shown below:

The PED has proposed tariff revision in energy charges only. The proposed increase in energy by the PED would result in an overall increase of about 10% in tariffs, and the increase across the categories varying from 9 % to 14 %. The summary of the tariff proposal by PED for FY 2012-13 is tabulated below:

Table- 9.1: Existing V/s Proposed tariff

Sr. No.	Category	Existing		Proposed by PED	
		Fixed Charges (Rs./Conn/Connected Load)	Energy Charge (Rs./kWh)	Fixed Charges (Rs./Conn/Connected Load)	Energy Charge (Rs./kWh)
1	2	3	4	5	6
1	Kutir Jyoti				
i)	1 - 15	10	0.90	10	1.00
ii)	16 - 30	10	1.05	10	1.20
iii)	> 30	10	1.50	10	1.70
2	Domestic				
i)	1 - 50	25	1.50	25	1.75
ii)	51 - 100	25	1.85	25	2.10
iii)	101 - 200	25	2.50	25	2.80
iv)	> 200	25	3.50	25	3.90
3	Domestic HT	30	3.00	30	3.30
4	Commercial				
i)	1 - 100	50	2.30	50	2.60
ii)	101 -200	50	3.60	50	4.00
iii)	> 200	50	4.00	50	4.45
5	Commercial HT	60	3.80	60	4.20
6	Public Lighting	50	4.25	50	4.75
7	PWW LT	50	4.00	50	4.40
8	PWW HT	80	3.80	80	4.20
9	Agl LT	20	1.10	20	1.25
10	Agl HT	30	1.10	30	1.25
11	Industrial LT				
i)	1 - 400	50	3.00	50	3.40
ii)	> 400	50	3.50	50	4.00
12	Industrial HT	80	3.00	80	3.30
13	Bulk Supply HT	80	3.00	80	3.30

The Commission after detailed analysis and prudent scrutiny of the aggregate revenue requirement filed by the PED, has arrived at a more realistic revenue requirement.

9.2.3 Tariff Approved by the Commission

Having considered the petition of Power and Electricity department (PED), Aizawl for approval of Annual Revenue Requirement (ARR) and determination of Retail Tariff for supply of energy and having approved the Annual Revenue Requirement (ARR) vide Table 6.38 of Chapter - 6 the Commission approves two part retail tariff duly segregating LT & HT categories with overall an increase in tariff by 9.72% as shown below:

Table – 9.2 : Category wise Tariff approved by the Commission for FY 2012-13

Sr. No.	Category	Existing		Approved	
		Fixed Charges (Rs./Conn/Connected Load)	Energy Charge (Rs./kWh)	Fixed Charges (Rs./Conn/Connected Load)	Energy Charge (Rs./kWh)
1	2	3	4	5	6
1	Kutir Jyoti				
i)	1 - 15 for all units	10	0.90	10	1.00
ii)	16 – 30 for all units	10	1.05	10	1.20
iii)	> 30 for all units	10	1.50	10	1.70
2	Domestic				
i)	1 - 50 for all units	25	1.50	25	1.70
ii)	51 – 100 for all units	25	1.85	25	2.10
iii)	101 - 200 for all units	25	2.50	25	2.80
iv)	> 200 for all units	25	3.50	25	3.90
3	Domestic HT	30	3.00	30	3.30
4	Commercial				
i)	1 - 100 for all units	50	2.30	50	2.60
ii)	101 -200 for all units	50	3.60	50	4.00
iii)	> 200 for all units	50	4.00	50	4.45
5	Commercial HT	60	3.80	60	4.20
6	Public Lighting	50	4.25	50	4.75
7	PWW LT	50	4.00	50	4.40
8	PWW HT	80	3.80	80	4.20
9	Irrigation & Agri LT	20	1.10	20	1.20
10	Irrigation & Agri HT	30	1.10	30	1.20
11	Industrial LT				
i)	1 - 400 for all units	50	3.00	50	3.00
ii)	> 400 for all units	50	3.50	50	3.50
12	Industrial HT	80	3.00	80	3.30
13	Bulk Supply HT	80	3.00	80	3.30

Note: The above Table depicts comparison of fixed/demand charges and energy charges only. For all unit means the consumers shall be billed for the whole unit consumed at the corresponding rate fixed for the slab

Details are given in the Tariff Schedule in Appendix.

9.2.4 Common Items

PED has proposed for the same rates which are in force as approved in Tariff Order of 2010 -11. The Commission has approved it as given in Tariff Schedule in Appendix.

9.2.5 Miscellaneous Charges

PED proposed for new rates of charges in many of the Miscellaneous items as against the rates approved by the Commission in the Tariff Order of 2010-11. The Commission has approved the same rates for all miscellaneous items of services as proposed by PED as given in the Tariff Schedule in Appendix.

This order shall come into force from 01-08-2012 and shall remain effective till revised / amended by the Commission. The Order shall be given wide publicity by the petitioner for information of the general public.

Member

Sd/- Chairperson

Place: Aizawl

Date: 25th July, 2012

Tariff Schedule

1. LT Supply

Category - 1: Supply for Kutir Jyoti Scheme Connection Domestic Consumers

Applicability: Applicable to all household who has been given connection under Kutir Jyoti Scheme or similar connection under any scheme of the State Govt. or Central Govt. for the benefit of poorer section. If the total consumption in three Months exceed 45 kWh, the connection should be converted to Category-2 as per existing norms of KJS unless superseded by other new norms.

System of Supply:

AC 50 cycle, single phase, 230 V, initially single light point connection which can be extended by one or two light points or as per the norms specified by competent authority from time to time.

A. Metered Supply: The total energy consumed shall be charged at the corresponding slab rate as given below:

Consumption Range	Energy/Variable Charges (₹/kWh/Month)	Fixed / Demand Charges (₹/Conn./Month)
a) 1 - 15 kWh for all units	1.00	10
b) 16 - 30 kWh for all units	1.20	10
c) Above 30 kWh for all units	1.70	10

Note: For all units mean the consumers shall be billed for the whole unit consumed at the corresponding rate fixed for the slab.

B. Un-metered Supply:

- (1) **Energy Charges:** Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC Supply Code Regulations-2010 and billed at appropriate slab rate of the metered tariff
- (2) **Fixed / Demand Charges:** ₹10/connection/Month

Category - 2: Supply for Domestic Light and Power

Applicability: The Tariff is applicable to all supplies for general domestic purposes such as Light, Fans, Heating devices, Television, VCR/VCP, Radio, Refrigerator, Air-conditioner, lift motors and all others appliances only for bona-fide residential used. This will also cover consumption of energy supplied for Government owned Educational and Research Institutions, Charitable Institutions, Government owned Hospital and Dispensaries, Farm houses, Religious premises like Churches, Temples, Mosques, religious offices and any other institution, Offices not engaged in any commercial activity or private gain, excluding those consumers specially covered under other Categories of this Tariff.

System of Supply:

- (a) AC 50 cycles, single phase, 230 V upto 4 kW connected load.
- (b) AC 50 cycles, three phase, 400- V above 4 kW and below 50 kW of connected load.

A. Metered Supply: The total energy consumed shall be charged at the corresponding slab rate as given below:

Consumption Range	Energy/Variable Charges	Fixed / Demand Charges
	(`/kWh/Month)	(`/kW/Month of contracted load)
a) 1 - 50 kWh for all units	1.70	25
b) 51 - 100 kWh for all units	2.10	25
c) 101 - 200 kWh for all units	2.80	25
d) Above 200 kWh for all units	3.90	25

Note: For all units mean the consumers shall be billed for the whole unit consumed at the corresponding rate fixed for the slab.

B. Unmetered Supply:

- (1) **Energy Charges:** Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff
- (2) **Fixed / Demand charges:** ` 30/kW/Month of contracted load.

Note: Mixed domestic and commercial establishment shall be treated as commercial establishment if the load on commercial side is more than 200 W or 10% of the total connected load.

Category - 3: Supply of Commercial Purposes

Applicability: This tariff is applicable to all lights, all types of fans, heating devices, Television, VCR/VCP, Radio, Refrigerator, Air Conditioner, lift motors, pump and all other appliances for the purpose of private gain including other small power. This category includes supply of power to all establishment and installations of commercial offices, Government undertakings, Public Sector undertakings, Commercial houses, Markets, Optical houses, Restaurants, Bars, Tailoring shops not using motive power, Refreshment and Tea Stalls, Show-Cases of advertisement, Theatres, Cinemas, Hotels, Lodging and Boarding, Private Nursing Homes and Hospitals, Religious Hospitals, Private run Schools and Hostels and Boarding facilities, any other educational institutions demanding fees, Photographic studio, Battery charging units, Repair Workshops, and Newspaper Press (Newspaper Printing press only), Petrol pump, etc. and other purposes which are not covered by any of the categories of this tariff order the connected load of which is upto 50 kW.

Note: Mixed domestic and commercial establishment shall be treated as commercial establishments if the load on commercial side is more than 200W or 10% of the total connected load.

System of Supply:

- (a) AC 50 cycle, single phase, 230 V upto a connected load of 4kW.
- (b) AC 50 cycle, three phases, 400 V above 4kW upto 50 kW contracted demand.

A. Metered Supply: The total energy consumed shall be charged at the corresponding slab rate as given below:

Consumption Range	Energy/Variable Charges	Fixed / Demand Charges
	(`/kWh/Month)	(`/kW/Month of contracted load)
a) 1 - 100 kWh for all units	2.60	50
b) 101 - 200 kWh for all units	4.00	50
c) Above 200 kWh for all units	4.45	50

Note: For all units mean the consumers shall be billed for the whole unit consumed at the corresponding rate fixed for the slab.

B. Un-metered Supply:

(1) Energy Charges: Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff.

(2) Fixed / Demand Charges: ` 60/kW/Month of contracted load.

Category - 4: Public Lighting Supply

Applicability: Applicable to Public Street Lighting System in municipality, Town, Committee, Sub-Town/Village, etc. including Signal system and Road and Park lighting in areas of Municipality Town/Committee, Sub-Town/Village, etc.

System of Supply:

- (a) AC 50 cycles, single phase, 230 V,
- (b) AC 50 cycles, three phases 400 V.

A. Metered Supply:

Consumption Range	Energy/Variable Charges (`/kWh/Month)	Fixed / Demand Charges (`/kW/Month of contracted load)
a) All units	4.75	50

B. Unmetered Supply:

(1) Energy Charge: Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff.

(2) Fixed Demand Charges: ` 50/kW/Month of connected load.

Category - 5: Public Water Works

Applicability: Applicable to all public water supply system.

System of Supply:

- (a) AC 50 cycles, single phase, 230 V upto load of 4 kW.
- (b) AC 50 cycles, three phases, 440 V above 4 kW upto 50 kW.

A. Metered Supply:

Consumption Range	Energy/Variable Charges	Fixed / Demand Charges
	(`/kWh/Month)	(`/kW/Month of contracted load)
a) All units	4.40	50

B. Unmetered Supply:

(1) Energy Charge: Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff

(2) Fixed / Demand Charges: `50/kW/Month of contracted load.

Category - 6: Supply for Irrigation & Agricultural Purpose

Applicability: This tariff is applicable to irrigation/pumping for agricultural purpose only.

System of Supply:

- (a) AC 50 cycles, single phase, 230 V upto 4 kW.
- (b) AC 50 cycles, three phases, 400 V upto 50 kW.

A. Metered Supply:

Consumption Range	Energy/Variable Charges	Fixed / Demand Charges
	(`/kWh/Month)	(`/kW/Month of contracted load)
a) All units	1.20	20

B. Unmetered Supply:

(1) Energy charges: Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff

(2) Fixed / Demand Charge: `20.00 per /kW/HP/Month of contracted load.

Category - 7: Industrial Power Supply

Applicability: Applicable to all Industrial power consumers with demand of power upto 50 kW which are not covered by Category No. 3 (Supply of Commercial Purposes), such

as steel fabrications, motor body builders, power handloom industry, poultry farming, pisciculture, prawn culture, floriculture in green houses, mushroom production, cold storage unit of pisciculture, agriculture, horticulture and any other type of industry where raw material is converted into finished products with the help of electrical motive power, printing press, etc. This will include domestic or commercial within the industrial complex.

System of Supply:

AC 50 cycles, single/three phase, 230/400 V.

A. Metered Supply: The total energy consumed shall be charged at the corresponding slab rate as given below:

Consumption Range	Energy/Variable Charges (`/kWh/Month)	Fixed / Demand Charges (`/kW/Month of contracted load)
a) 1 - 400 kWh for all units	3.00	50
b) Above 400 kWh for all units	3.50	50

Note: For all units mean the consumers shall be billed for the whole unit consumed at the corresponding rate fixed for the slab.

B. Unmetered Supply:

(1) **Energy charges:** Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff.

(2) **Fixed Charges:** ` 60.00/kW/Month of contracted load.

Category – 8: Temporary Power Supply

Applicability:

- (a) For marriage, puja, religious/public function/gathering and all others domestics, festivals/ ceremony purposes which are of temporary nature upto 30 kW of connected load for a period not exceeding 180 days.
- (b) For commercial and Industrial purposes like cinemas, theatres, circus, carnivals, exhibition, concerts, etc. which are of temporary nature for private gain upto

20 kW of connected load for a period not exceeding 180 days.

System of Supply: As may be decided by Power & Electricity Department, Govt of Mizoram.

Consumption Range	Energy/Variable Charges (`/kWh/Month)	Fixed / Demand Charges (`/kW/Month of contracted load)
a) All units	6.00	50

A. Metered Supply:

Consumer shall be supplied with energy meter by the Department after receiving in advance from consumer, the full cost of energy meter as security, which shall be released to the consumer after period of connection is over provided energy meter is not defective/damage during the connection otherwise security shall be forfeited. Connection and disconnection charges will be extra.

Materials for service connection shall be arranged by the Department on advance payment by consumer or the same may be arranged by the consumer as per the specifications required by the Department, which will be the property of the consumer after the connection period is over. In addition to this, usual Departmental charges for connection and disconnection should be paid in advance.

B. Un-metered Supply:

(1) Energy Charge: Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff

(2) Fixed / Demand Charges: ` 50/kW/Month of contracted load.

C. Terms & Conditions:

a) Temporary power supply may be provided in accordance with the power delegation as furnished below:

- 1) S.D.O concerned - upto 30 days.
- 2) E.E. concerned - upto 120 days.
- 3) S.E. concerned - upto 180 days.

b) The energy cost as per tariff above along with connection & disconnection charge will be realized in advance from the applicant before making the supply available to him.

- c) The complete wiring for which temporary supply of power is required shall be arranged by applicant at his own expense. It will also be the responsibility of the applicant to ensure that the wiring conforms to the technical requirements as specified by Power & Electricity Department.
- d) Supply will be given only after obtaining proper security for meters and after realizing a prepayment @ `50.00 per kW of connected load or part thereof, in advance which will finally be adjusted against consumption bill.

D. Payment: Charges for temporary connection shall be paid in advance against bill to be served.

- (a) Bill based on actual consumption and daily fixed charge shall be served to the consumer at reasonable interval. The amount of each bill shall be adjusted from the amount of advance prepaid.
- (b) In the event that the total amount of advance paid is found short of the amount of the bills served as above, the Department shall be at liberty to request the consumer to pay additional payment in advance as required based on this tariff.
- (d) If the consumer fails to pay the additional payment, the Department shall be at liberty to discontinue the temporary power supply.
- (e) The advance amount paid and the consumption bill shall be adjusted in full immediately after the termination of the temporary power supply.

Note: For all units mean the consumers shall be billed for the whole unit consumed at the corresponding rate fixed for the slab.

2. HT Supply Tariffs

General Conditions of HT Supply

- 1) The tariffs are applicable for supply of Electricity to HT Consumers having loads with a contracted demand of 60 kVA and above and / or having a connected load exceeding 50 kW / 67 Hp

2) Maximum Demand

Maximum demand shall be the highest value of average load measured in KVA or KW as the case may be, delivered at the point of commencement of supply of the consumer during any consecutive 30/15 minutes period of maximum used (depending upon a time of meter being used) in the said Month.

3) Billing Demand

The billing demand shall be the maximum demand recorded during the Month or 80% of the contracted demand whichever is higher.

Category - I: Domestic

Applicability: This tariff is applicable to similar purposes defined in LT category 2-Supply for domestic light and power, provided that the connected load for common facilities such as Non-domestic supply in residential area street lighting and water supply etc shall be within the limits specified here under.

Water supply & Sewerage and street lighting and general purpose put together 10% of total connected load

System of supply: AC 50 Cycles, 11000 Volts and above

A) Metered Supply

(1) Fixed/Demand Charges: ` 30/kVA/Month of billing demand
plus

(2) Energy Charges: ` 3.30/kWh/Month for all Units

B) Un-metered Supply

(1) Demand Charges: ` 30/kVA/Month of contracted load or part thereof plus

(2) Energy Charges: Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff

Category - 2: Commercial

Applicability: This tariff is applicable to similar purposes defined in LT Category-3 supply to Commercial Purposes.

System of supply: AC 50 Cycles 11000 V and above

(1) Fixed/Demand Charges: ` 60/kVA/Month of billing demand
plus

- (2) Energy Charges: ₹ 4.20/kWh/Month for all Units

A. Unmetered Supply

- (1) Fixed/Demand Charges: ₹ 60/kVA/Month of contracted load or part thereof
plus
- (2) Energy Charges: Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff

Category - 3: PWW

This tariff is applicable to similar purposes defined in LT Category-5 - Public water works

System of supply: AC 50 Cycles 11000 V and above

A) Metered Supply

- (1) Fixed/Demand Charges: ₹ 80/kVA/Month of billing demand
Plus
- (2) Energy Charges: ₹ 4.20/kWh/Month for all Units

B) Unmetered Supply

- (1) Fixed/Demand Charges: ₹ 80/KVA/Month of contracted load or part thereof
plus
- (2) Energy Charges: Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff

Category - 4: Irrigation & Agriculture

Applicability: This Tariff is applicable to irrigation / pumping for agricultural purpose

only.

System of supply: AC 50 cycles 11000 V and above

A) Metered Supply

(1) Fixed/Demand Charges: ` 30/KW/Month of billing demand

Plus

(2) Energy Charges: ` 1.20/kWh/Month for all Units

B) Unmetered Supply

(1) Fixed/Demand Charges ` 30/kVA/Month of Contracted Load

Plus

(2) Energy Charges: Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff.

Category - 5:Industrial

Applicability: This Tariff is applicable to similar purpose defined in LT Category of supply to Industrial purposes.

System of supply: AC 50 cycles 11000 V and above

A) Metered Supply

(1) Fixed/Demand Charges: ` 80/kVA/Month of billing demand

Plus

(2) Energy Charges: ` 3.30/kWh/Month for all Units

B) Unmetered Supply

(1) Demand Charges: ` 80/kVA/Month of contracted demand.

Plus

(2) Energy Charges Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff

Category - 6: Bulk supply within the State

Applicability: This tariff is applicable for including mixed loads similar to LT category 2 & 3 such as private sector installation educational institution, defense installation, government and public sector offices and complexes Hospitalities etc... who arranges their own distributions system of power within the premises with the approval of competent authority. This will not include industrial complexes which may consisting mixers load of LT category 2 & 3 and HT category 5.

System of supply: AC 50 cycles 11000 V and above

A. Metered Supply:

- (1) Fixed/Demand Demand Charges: ` 80/kVA/Month of billing demand.
Plus
- (2) Energy Charges: ` 3.30/kWh/Month for all Units

B. Un metered supply:

- (1) Fixed/Demand Charges: ` 80/kVA/Month of Contracted Load
Plus
- (2) Energy charges: Energy consumed shall be computed based on contracted demand as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 and billed at corresponding rate of metered tariff

3. COMMON ITEMS

- a) **Rebate for advance payment:** For payment of energy bill made within due date, Rebate of @ ` 0.05 per unit (will be allowed).
- b) **Payment:** Payment against bills in full shall be made by cash/Treasury Challan/DD/local cheque only unless otherwise accepted by the competent authority within the last date for payment. Bank commission/charges, if any should be borne by the consumers.
- c) **Surcharge for late payment of bills:** If payment is not received within due date surcharge @ 2% on the outstanding principal amount for each 30 days successive period or part thereof will be charged, until the amount is paid in full.
- d) **Single Point Delivery:** This tariff is based on the supply being given through

a single point of delivery and metering at one voltage. Supply at other points at other voltage shall be separately metered and billed for and shall be considered as separate connection.

- e) **Voltages and frequency:** All voltages mentioned in this tariff are only nominal voltages and alternating current (AC) with nominal frequency of 50 Hertz (i.e. 50 cycles per second) and may not be 100 % correct in practical.
- f) **Surcharge for low Power Factor:** Power factor for the Month shall be the ratio of kWh and kVAh supplied to the consumer during the Month. The power factor of consumer's installation shall not be less than 85%. If the power factor falls below 85% during any Month, the consumer shall pay surcharge as detailed below:

Power factor range	Surcharge
For every 1% fall below 85%	Surcharge at 0.5% on energy charge and demand charges will be levied subject to a maximum of 2.5%.

Should the power factor drop below 70% and to remain for a period of 2 consecutive Months it must be brought up to 85% within a period of 6 Months by methods approved by the licensee failing which without prejudice to the right of the licensee to collect surcharge and without prejudice to such other rights as having accrued to the licensee or any other right of the licensee, consumer connection may be discontinued.

All LT consumers whose connected load include Welding Transformers or induction meters of 3HP and above shall be required to have suitable shunt capacitors installed as per Chapter 4 clause 4.6(1) & (2) of JERC for M&M (Electricity Supply Code) Regulations, 2010 to ensure power factor is not less than 85%. Failure to install required rated capacitors as indicated in the above regulations or the capacitors installed became defective, surcharge at 25% on the bill amount shall be levied till sound and adequate capacitors are installed. LT consumers who are provided with electronic meters which can record power factor will however become under the preview of clause 6 above and power factor surcharge will be levied accordingly.

- g) **Transformation loss:** The consumers getting their supply at HT and metered on the LT side shall be charged an additional 3% over the metered

consumption as transformation loss.

- h) Contracted demand for calculation of fixed/demand charges in the monthly billing shall be rounded upto 500 watt or part thereof. The minimum allowed connected load for calculation of fixed/demand charges is 500 watt except KJ category.
- i) The unmetered consumers may further be classified and the corresponding energy consumed shall be computed as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 as below:

- (i) Regular consumer without energy meter – Annexure – 8, Assessment Report, Sub-no. 1.

- (ii) Defective meters – Regulation 9.6.

- (iii) Un-authorised consumers – Annexure – 8.

In case of any inconsistency between the Joint Electricity Regulatory Commission for Manipur and Mizoram (Electricity Supply Code) Regulations, 2010 and this Tariff Schedule, the provisions and meanings content in the said code shall prevail.

4. Miscellaneous Charges

4.1 Meter Rent: Monthly charges for hiring of the meter and indicators where they are the property of Power & Electricity Department payable by the consumers shall be as follows:

4.1.1 LT Metering:

- a) Energy meter for AC single phase LT supply: `15.00 per meter per Month.
- b) Energy meter for AC three phase supply : ` 30.00 per meter per Month.
400 V between phases (without CT)
- c) Energy meter for AC three phase supply : `50.00 per meter per Month.
400 V between phases (with CT)
- d) Any other type of meter/indicator for LT supply: ` 100.00 per meter per Month

4.1.2 HT Metering:

- a) Energy meter for AC three phase HT supply: ` 200.00 per meter per Month.

- b) Any other type of meter/indicator for HT supply: `300.00 per meter per Month

4.2 Other charges for meter:

4.2.1 Meter shifting charge:

- a) 200.00 per shifting if resulted from reconstruction/modification of building and at consumers request.
- b) Free of cost if shifting is done in the interest of work.

Generally, the cost of energy meter for subsequent replacement will be borne by the consumer; when the cause leading to subsequent replacement is either manufacturing defect or Department's fault then it shall be free of cost.

4.2.2 The cost of replacement, i.e. cost of the energy meter after initial installation shall normally be borne by the consumers at the following rates:

- a) **Re-installation/Replacement charge by new meter:** (exclusive of re-installation of existing meter sent for calibration/test). ` 100.00 each and material cost, if any will be charged extra.
- b) **Cost of Energy Meters supplied by Department:**
As per the Department's purchase rate plus 15% Departmental charge if supplied from the Department (energy meters approved / tested by the Department only shall be used).

4.2.3 Charges for testing of Meters at the request of consumers:

- a) For AC single phase LT energy meter: ` 75.00 per meter per testing.
- b) For AC three phase LT energy meter without CT: `100.00 per meter per testing.
- c) For AC three phase LT energy meter with CT: ` 200.00 per meter per testing.
- d) For energy meter AC three phase HT supply: ` 300.00 per meter per testing.
- e) For any other type of energy meter HT supply: ` 300.00 per meter per testing.

In case the meter fitted to the consumer premises is found to be defective from initial fitting, testing and replacement of meter will be done free of cost.

4.3 Testing of Consumer's Installation:

The first test and inspection will be carried out free of cost. Should any further test or inspection is necessitated due to fault in the installation or due to non-compliance with the condition of supply by the consumer an extra charge of ₹150.00 per test, payable in advance, shall be levied. In the event of the consumer failing to pay the testing charge in advance within stipulated time, the Department will be at liberty to disconnect the consumer's premise from the supplier's main.

4.4 Disconnection and Reconnection:

Charges towards each disconnection or reconnection as the case may be for punitive measure shall be as follows, however for disconnection or reconnection at the request of consumer or any other disconnection or reconnection other than punitive measure shall be half of the rate given below:

- (a) For AC single phase LT supply : ₹ 100.00
- (b) For energy meter with/without CTs for AC three phase LT supply : ₹ 150.00
- (c) For AC HT supply : ₹ 400.00

4.5 Charges for change of category:

Charges for change of category will be done as stipulated in Joint Electricity Regulatory Commission for Manipur & Mizoram (Electricity supply Code) Regulations, 2010, Chapter - 6, Clause-6.1

4.6 Charges for Replacement of Connection Wire, Cut-out, Fuse, etc.:

Cost of replacement after initial fixation of connection wire, cut-out, fuses, etc. will be borne by the consumers and shall be payable by the consumer in advance as per purchase rate of the Department plus 15% Departmental charges if the Department supplies the materials or the consumer may arranged required materials as per the required specifications of the Department. In any case, the execution charge shall be as follows:

- (a) Single phase connection: ₹ 400.00 per connection.

(b) LT three phase connection: ` 600.00 per connection.

(c) HT three phase connection: ` 900.00 per 100 meters of the HT line.

4.7 Re-rating of Installation:

Fees for re-rating of the consumer's installation at the request of the consumer:

(a) ` 150.00 per case of upward rating.

(b) ` 150.00 per case of downward rating.

These charges shall be payable by the consumer in advance. The aforesaid charges do not include the charges payable by the consumer for other works connected due to change of connected load.

4.8 Meter Security (if Department's meter is used):

The amount of Security deposit for meter security shall normally be the price of the meter as fixed by the licensee from time to time.

4.9 Charges for Replacement of tamper proof Meter Box:

(a) For AC single phase LT or three phases LT without CT or with CT, the energy meter box if replaced from Department store: The charge will be as per Department purchase rate plus 15% towards Departmental charge.

(b) Charges for replacement of broken glass of meter Box: As per purchase rate of the Department plus 15% Departmental charges.

(c) For replacement of any type of meter box or broken glass, consumer will arrange for the necessary part from his own source and the department shall charge ` 50.00 per single phase connection and ` 75.00 for three phase connection towards installation cost.

4.10 Charges for Testing of Transformer Oil:

(a) For first sample of oil: ` 150.00 per sample.

(b) For the next additional sample of oil of the equipment received at the same time of the first sample: ` 100.00 per sample.

4.11 Service Lines & Service Connection:

Type of Service Connection: Type of service connection and distance for service connection line length will be as per Joint Electricity Regulatory Commission for Manipur and Mizoram (Electricity Supply Code) Regulations 2010 Chapter - 3

Cost of Service Connection: As stipulated in the Joint Electricity Regulatory Commission for Manipur and Mizoram (Electricity Supply Code) Regulations, 2010 Chapter – 3, clause 3.5, Appendix-1 cost of material is to be assessed based on the Department purchase rate. If the consumer desires to arrange service connection materials, the Department (not below rank of Junior Engineer concerned) will check all the materials.

4.12 Load Security:

The amount of load security for new service connection will be calculated as per the procedure prescribed in the JERC for M&M (Electricity Supply Code) Regulations, 2010 (6.10)

Annexure - I

Mizoram - Expected Revenue from Existing Tariff

Sl. No.	Category	Consumers	Connected Load (in kW)	Sales (in MU)	Fixed Charges (Rs./Conn/Connected Load)	Energy Charge (Rs./kWh)	Total Fixed Charges (Rs. Lakh)	Total Energy Charges (Rs. Lakh)	Total Charges (Rs. Lakh)	Average Realization (Rs/kWh)
1	2	3	4	5	6	7	8 = (3*6*12) 100000	9 = 5*7*10.0	10 = 8+9	11 = (10/5)/10.0
1	Kutir Jyoti									
i)	1 - 15	7960	927.67	2.08	10	0.90	9.55	18.72	28.27	1.36
ii)	16 - 30	5628	458.75	2.30	10	1.05	6.75	24.15	30.90	1.34
iii)	> 30	3912	419.87	3.62	10	1.50	4.69	54.30	58.99	1.63
	Sub Total	17500	1806.29	8.00			20.99	97.17	118.16	1.48
2	Domestic									
i)	1 - 50	68272	58675.40	38.14	25	1.50	176.03	572.10	748.13	1.96
ii)	51 - 100	47182	49325.84	51.04	25	1.85	147.98	944.24	1092.22	2.14
iii)	101 - 200	39368	51012.89	74.61	25	2.50	153.04	1865.25	2018.29	2.71
iv)	> 200	20178	51405.45	58.21	25	3.50	154.22	2037.35	2191.57	3.76
	Sub Total	175000	210419.57	222.00			631.27	5418.94	6050.21	2.73
3	Domestic HT	10	1144.00	0.50	30	3.00	4.12	15.00	19.12	3.82
	Total Domestic	192510	213369.86	230.50			656.38	5531.11	6187.49	2.68
4	Commercial						0.00			
i)	1 - 100	3000	6768.54	3.39	50	2.30	40.61	77.97	118.58	3.50
ii)	101 -200	1550	3177.74	4.25	50	3.60	19.07	153.00	172.07	4.05
iii)	> 200	1450	9457.65	14.36	50	4.00	56.75	574.40	631.15	4.40
	Sub Total	6000	19403.92	22.00			116.43	805.37	921.80	4.19
5	Commercial HT	48	601.48	1.50	60	3.80	4.33	57.00	61.33	4.09
	Total Commercial	6048	20005.40	23.50			120.76	862.37	983.13	4.18
6	Public Lighting	897	1699.29	7.00	50	4.25	10.20	297.50	307.70	4.40
7	PWS LT	11	570.08	0.50	50	4.00	3.42	20.00	23.42	4.68
8	PWS HT	30	32012.88	42.00	80	3.80	307.32	1596.00	1903.32	4.53
9	Irrigation & Agri LT	25	20.00	1.00	20	1.10	0.05	11.00	11.05	1.11
10	Irrigation & Agri HT	2	93.50	0.25	30	1.10	0.34	2.75	3.09	1.24
11	Industrial LT									
i)	1 - 400	266	4010.35	0.70	50	3.00	24.06	21.00	45.06	6.44
ii)	> 400	409	1713.15	0.30	50	3.50	10.28	10.50	20.78	6.93
	Total Industrial	675	5723.50	1.00			34.34	31.50	65.84	6.58
12	Industrial HT	15	2419.12	0.50	80	3.00	23.22	15.00	38.22	7.64
13	Bulk Supply HT	250	28246.77	20.00	80	3.00	271.17	600.00	871.17	4.36
	Grand Total	200463	304160.40	326.25			1427.20	8967.23	10394.43	3.19

Annexure - II

Mizoram - Expected Revenue from Proposed Tariff

Sl. No.	Category	Consumers	Connected Load	Sales	Fixed Charges	Energy Charge	Total Fixed Charges	Total Energy Charges	Total Charges	Average Realization (Rs/kWh)
			(in kW)	(in MU)	(Rs./Conn/Connected Load)	(Rs./kWh)	(Rs. Lakh)	(Rs. Lakh)	(Rs. Lakh)	
1	2	3	4	5	6	7	8 = (3*6*12) 100000	9 = 5*7*10.0	10 = 8+9	11 = (10/5)/10.0
1	Kutir Jyoti									
i)	1 - 15	7960	927.67	2.08	10	1.00	9.55	20.80	30.35	1.46
ii)	16 - 30	5628	458.75	2.30	10	1.20	6.75	27.60	34.35	1.49
iii)	> 30	3912	419.87	3.62	10	1.70	4.69	61.54	66.23	1.83
	Sub Total	17500	1806.29	8.00			20.99	109.94	130.93	1.64
2	Domestic									
i)	1 - 50	68272	58675.40	38.14	25	1.70	176.03	648.38	824.41	2.16
ii)	51 - 100	47182	49325.84	51.04	25	2.10	147.98	1071.84	1219.82	2.39
iii)	101 - 200	39368	51012.89	74.61	25	2.80	153.04	2089.08	2242.12	3.01
iv)	> 200	20178	51405.45	58.21	25	3.90	154.22	2270.19	2424.41	4.16
	Sub Total	175000	210419.57	222.00			631.27	6079.49	6710.76	3.02
3	Domestic HT	10	1144.00	0.50	30	3.30	4.12	16.50	20.62	4.12
	Total Domestic	192510	213369.86	230.50			656.38	6205.93	6862.31	2.98
4	Commercial						0.00			
i)	1 - 100	3000	6768.54	3.39	50	2.60	40.61	88.14	128.75	3.80
ii)	101 - 200	1550	3177.74	4.25	50	4.00	19.07	170.00	189.07	4.45
iii)	> 200	1450	9457.65	14.36	50	4.45	56.75	639.02	695.77	4.85
	Sub Total	6000	19403.92	22.00			116.43	897.16	1013.59	4.61
5	Commercial HT	48	601.48	1.50	60	4.20	4.33	63.00	67.33	4.49
	Total Commercial	6048	20005.40	23.50			120.76	960.16	1080.92	4.60
6	Public Lighting	897	1699.29	7.00	50	4.75	10.20	332.50	342.70	4.90
7	PWS LT	11	570.08	0.50	50	4.40	3.42	22.00	25.42	5.08
8	PWS HT	30	32012.88	42.00	80	4.20	307.32	1764.00	2071.32	4.93
9	Irrigation & Agri LT	25	20.00	1.00	20	1.20	0.05	12.00	12.05	1.21
10	Irrigation & Agri HT	2	93.50	0.25	30	1.20	0.34	3.00	3.34	1.34
11	Industrial LT									
i)	1 - 400	266	4010.35	0.70	50	3.00	24.06	21.00	45.06	6.44
ii)	> 400	409	1713.15	0.30	50	3.50	10.28	10.50	20.78	6.93
	Total Industrial	675	5723.50	1.00			34.34	31.50	65.84	6.58
12	Industrial HT	15	2419.12	0.50	80	3.30	23.22	16.50	39.72	7.94
13	Bulk Supply HT	250	28246.77	20.00	80	3.30	271.17	660.00	931.17	4.66
	Grand Total	200463	304160.40	326.25			1427.20	10007.59	11434.79	3.50

Minutes of the 9th Meeting of the State Advisory Committee (SAC) for the State of Mizoram

The 9th Meeting of the State Advisory Committee for the State of Mizoram was held on 28th May, 2012 at the Conference Hall, I & PR Directorate, Aizawl, under the Chairmanship of Shri H. Bihari Singh, Chairperson, JERC for M&M.

In his welcome speech, Pu. A. Chawnmawia, Secretary, JERC for M&M and Member - Secretary, SAC Mizoram, informed the Committee of the retirement of Pu. C. Hmingthanzuala IAS (Rtd), Member, JERC last month and the appointment of a new Member representing Mizoram in near future and also requested all the Members to take part in the discussion on a cause of the State.

The Chairman also informed the Committee that the 9th Meeting of the SAC could have been arranged after the new Member joins the Commission. However, it was decided to have the meeting early as the determination of Retail Tariff for the State of Mizoram was already delayed on one hand and the discussion on different aspects of each of the components of the annual expense and the proposed new tariff by the Committee was needed before public hearing on the other. The Chairman then initiated the discussion agenda wise.

Agenda 1. Confirmation of the Minutes of 8th Meeting of SAC held on 27th February, 2012

Dr. H. Vanlalhluna, President, All Mizoram Farmers' Union (AMFU) wanted to have the details of the Action Taken on earlier recommendations of SAC by the Department / Government, before the next agenda is taken up. The President, AMFU expressed concern particularly over the initiatives taken by the Department to motivate the innocent/ general consumers through lectures/ debate/ interactions in the educational institutes as agreed upon in earlier meetings.

Pu. K Lalhminthanga, President, Mizoram Chambers of Industries and Commerce (MCI&C) also supplemented that actions on the previous resolutions must be put in black and white for record and reference.

In reply, Pu. C.L. Thangliana, E-in-C, P&E Department, informed the Committee that the Department has already started making publicity and drawing awareness of the

consumers through local channels of the electronic media and other print media of Aizawl and other districts. The E-in-C further stated that the publicity is being continued in a big way to cover more consumers in the State.

The Chairman reiterated that recommendations of the SAC are considered by the Commission and necessary actions are taken up with the State Government and concerned Departments. Action Taken reports will be placed before the SAC in future.

The Committee gave nod to the declaration of the Minutes of the 8th Meeting of the SAC Mizoram as confirmed.

Agenda 2. Determination of Tariff for the P&E Department, Mizoram for the FY 2012-2013

The Chairman then took up the next agenda and drew the attention of the Members to the general background and a brief note of the Tariff Petition filed by the P&E Department, Mizoram for FY 2012-2013.

Dr. H. Vanlalhluna, President, AMFU, wanted to know from the concerned authority the tentative date on which the Load Shedding in the State will be lifted and measures to control theft of energy. Expressing concern over the load shedding the P&E Department resorted to during the peak hours, Pu. K. Lalhmingthanga, President, MCI & C, also wanted to know the detailed programme being evolved by the Department for improvement of power supply and for lifting load shedding in the State.

Pu. C.L. Thangliana, E-in-C, P&E Department explained elaborately how power supply is managed in the State of Mizoram. The E-in-C stated that against a restricted requirement of 80 MW (unrestricted being 100 MW or so), the State is supposed to get about 73 MW of power as its allocated share from the Central Sector Generating Stations.

However, the actual receipt from these Stations at an average varies from 50 MW to 60 MW depending upon the operational limitations the plants have due to shortage of water, technical snag in the machine & the transmission lines that pass through inhospitable areas etc. The State's own generation is about 20 MW. Therefore, there is a shortfall of about 30 MW during the peak hours in the State. This is the main reason why the Department is very unwillingly resorting to load shedding for few hours in rotation in the State.

About the measures taken for improvement of the situation, the E-in-C went on to explain that substantial reduction of Loss through the implementation of specific programmes over of a period of three years or so from now, under R-APDRP (Re-structured Accelerated Power Development and Reform Programme) would help the State increase its availability of power to the advantage of the Consumers. The gradual reduction of loss from the present level of about 30 p.c. to a standard level of 15 p.c. would be accomplished by then and resultant saving of about 10 MW would enable the Department to reduce the Shedding time.

Besides the internal measure, the Department is also expecting its share of 22 MW from Gas Based Power Plant (726 MW), ONGC and Tripura Power Corporation Ltd (OTPC), Palatana, Tripura, from July, 2012 onwards and this will provide much relief to the consumers of the State. Another 32 MW of power will also be received by the State from NTPC Power Plant (750 MW) at Bongaigaon in near future. The E-in-C was hopeful that with these near completion projects in line, the Department may not find any difficulty in the power supply management of the State.

Under the long-term measures, the E-in-C apprised the Committee of the large, medium, small hydro projects which are in pipeline and at various stages of survey & investigation by different agencies.

Coming again to point of the high ATC loss rate in the State, Pu. K. Lalhmithanga, President, MCI & C informed the Committee that theft cases are rampant in the State and behind every case, there is apparently a hand from the Department side. This needs to be checked at all cost to help reduction in tariff for the regular and honest consumers.

Dr. Lalrinthanga, Economics Department, Mizoram University, also stated that theft cases could not be detected even though large number of theft cases are happening in many areas. Simply because, the confidentiality could not be maintained and the thieves came to know about the detection drive in advance. Therefore, Dr. Lalrinthanga felt that Department Staffs are deliberately involved in the process. The head of the Department should take appropriate action to check and control it.

The Chairman drew the attention of the Committee to the very high cost of purchase of power constituting 54 p.c. of the proposed ARR. The Supplementary Bills for an amount of Rs. 41.82 crores included in the power purchase cost of 2012-13 is for the Energy purchased in previous years for which revised tariffs are determined retrospectively by the Central Electricity Regulatory Commission. The Chairman also briefly explained about the would be impact on the retail tariff by such payment. The Committee Members

deliberated at length. Finally, it was decided, keeping in view the tariff support to the extent of Rs. 234 crores from the State Government to respect the decision of the CERC.

The Employee Cost, which is all time high was discussed next. Dr.H. Vanlalhluna, President, AMFU, Pu. K. Lalhmingthanga, President, MCI & C and Pu. Sandingliana MCS, Director, LAD took part in the discussion on high employee cost and its impact on the consumers of the whole State. The Chairperson, JERC stated that the manpower productivity of employee per kilowatt-hour in Mizoram is the highest in the country.

Offering his views on it, Pu. C.L. Thangliana, E-in-C stated that, for small State like Mizoram where prospects for employment in private sector are practically negligible, the State Government may have specific policy for employment at different grades. That may be the reason behind accepting such a huge tariff support by the State Government. The Chairman also supplemented saying that employment in public sector is an issue on which the State Government alone takes the decision.

The projected R&M expenses for the FY 2012-13 is 4 times the approved R&M cost of 2010-11 and is very high. The Committee decided to accept the amount of R&M Expense considering the permissible amount as per the Regulations.

In the matter of tariff, the Chairman informed the Committee that the P&E Department has proposed a rise of 6 p.c. above the previous tariff (FY 2010-11). The Department has also proposed non-telescopic type of billing – same as the prevailing type, to the consumers. This kind of billing is found to be simpler and it also keeps the consumer informed of economic use of electricity.

Dr. H. Vanlalhluna, President, AMFU felt that a rise of 15 paise per unit in respect of Agriculture Consumer, as proposed by the P&E Department, is high apparently.

Pu. Sandingliana MCS, Dir, LAD once again raised the issue of payment of electricity charges for the Street Lamps by LAD, and informed the Committee of the hardship the LAD is finding in mobilizing the fund for it in the absence of any Budget Provision. The Chairman reiterated that fund for the maintenance of the street light needs to be provided and informed the Member to pursue the matter with the State Government.

Observations of the Committee

1. Supplementary Bills which are prepared with retrospective effect, shall not create Tariff Shock.
2. Employee Cost is very high and its impact on tariff is tremendous.
3. Repair & Maintenance Cost is high.
4. Loss rate is still high.

5. Progress of Power Projects is left much to be desired.

Recommendations of the Committee

1. The State Government may foot the supplementary and unforeseen bills, so that it is not loaded on the consumers.
2. Different Employment Policy may be adopted by the State Government in respect of the power sector in order to make the tariff affordable and consumer friendly.
3. The P&E Department shall expedite collection of more revenue from consumers and minimize the R&M expenses.
4. Stringent actions may be initiated to wipe out theft of power cases and reduce loss rate.
5. Collective Efforts may be made to complete early the hydro power projects in the pipeline and run the sector as an Industry.

The Meeting ended with vote of thanks to the Chair.

Sd/- H. BIHARI SINGH

Chairman

State Advisory Committee of Mizoram

Memo No.H.11019/27/12-JERC

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Dated Aizawl, the 5th June, 2012.

Copy to:

- (1) P.S to Hon'ble Chief Minister, i/c P&E Department, Govt. of Mizoram for kind information to the Hon'ble Chief Minister.
- (2) PS to Secretary, P&E Department, Govt. of Mizoram for kind information to the Secretary and for taking necessary action on the Minutes of the Meeting.
- (3) All Members / Special Invitee / Invitees of the State Advisory Committee for kind information and for taking necessary action on the Minutes of the Meeting.
- (4) Guard File.

Sd/- A. CHHAWNMAWIA

Secretary

**List of persons who attended in the Public Hearing held on 3rd July, 2012 at I & PR
Department's Conference Hall, Treasury Square, Aizawl.**

A. Objectors

1. Mr. P. Lalupa, President, Mizoram Consumers' Union, Aizawl
2. Mr. Laldingliana Sailo, Secretary, Mizoram Consumers' Union, Aizawl.
3. Mr. Ngursailova Sailo, Treasurer, Mizoram Consumers' Union, Aizawl.
4. Mr. Sainghinga Sailo, General Secretary, Mizoram Upa Pawl Hqrs, Aizawl
5. Mr. P.C. Lalmawia, Finance Secretary, Mizoram Upa Pawl Hqrs, Aizawl
6. Mr. Laldawngliana Tochwawng, CEC, Central YMA, Aizawl.
7. Mr. H. Lalliansanga, Representative, Dove Alliance, Aizawl.
8. Mr. Rodinwawia, Representative, Dove Alliance, Aizawl.
9. Mr. H. Zonuntluanga, Representative, Dove Alliance, Aizawl.
10. Mr. C. Lalmuanpuii, Representative, Vanapa Society, Aizawl.
11. Mr. Lalramhluna, Representative, Vanapa Society, Aizawl.

B. PED Officials

1. Mr. Lalduhzuala Sailo, SE (Commercial).
2. Mr. Zaithansياما, EE (Commercial).
3. Mr. Lalhminghlua, AE (Commercial).